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**Institutional and Public Expenditure Review of
Ghana's Ministry of Food and Agriculture**

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ABSTRACT

The need for agricultural ministries to have the capacity to develop appropriate policies and effectively implement them is becoming increasingly important as African countries, following on their commitment to Comprehensive Africa Agriculture Development Program (CAADP), pursue economic growth through agriculture-led development. The ministries need to take the lead in pulling together evidence based strategies and building partnerships that ensures their ownership. As donors begin to align their policies with those of governments, an increasingly large share of external support to agriculture is likely to be delivered in the form of support to budgets rather than specially implemented projects. Capacities of ministries and effectiveness public systems will have significant bearing on effectiveness and impact of investments in agriculture.

This public expenditure and institutional review of Ghana's Ministry of Food and Agriculture offers insights on diagnosing limitations to and identifying strategies for improving the capacity of ministries to make effective use of human and financial resources. The review makes use a conceptual framework in which mission and functions, organizational capacity – a combination of structures, processes and resources –and organizational incentives interact to produce organizational performance. Indicative strategies are recommended that the ministry can use to generate discussions internally and developed a set a reforms that are owned. They key message is that to improve performance both capacity and incentives faced by organizations need to be addressed.

Keywords: agriculture, ministry, capacity, expenditure review, institutions

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ABBREVIATIONS AND ACRONYMS

AEA	Agricultural Extension Agent
AggSSIP	Agricultural Sector Support Investment Project
CAADP	Comprehensive Africa Agricultural Development Programme
CAGD	Controller and Accountant Generals Department
CSIR	Council for Scientific and Industrial Research
COCOBOD	Ghana Cocoa Board
DADU	District Agricultural Development Unit
DAO	District Agricultural Officer
DDA	District Director of Food and Agriculture
FAO	Food and Agriculture Organization of the United Nations
FASDEP	Food and Agriculture Sector Development Policy
FBO	Farmer-Based Organisation
GIDA	Ghana Irrigation Development Authority
GLSS	Ghana Living Standard Survey
HIPC	Heavily Indebted Poor Country
ICOUR	Integrated Company for Upper Region
IGF	Internally generated fund
ISSER	Institute of Statistical Social and Economic Research
MDAs	Ministries, Departments, and Agencies
MDBS	Multi Donor Budgetary Support
MIS	Management Information System
MoFA	Ministry of Food and Agriculture
MoFEP	Ministry of Finance and Economic Planning
MoLF	Ministry of Land and Forests
MTEF	Medium-term Expenditure Framework
NAEP	National Agricultural Extension Project
NDPC	National Development Planning Commission
NGO	Nongovernmental organization
PEIR	Public expenditure and institutional review
PNDCL	Provisional National Defence Council Law
RADU	Regional Agricultural Development Unit
RAO	Regional agricultural office
RELC	Research-Extension Farmer Linkage Committees
WIAD	Women in Agricultural Development

1. INTRODUCTION

Background

Ghana, a West African country with a population of 23 million people, has achieved a remarkable growth record in the past two decades: it recorded positive per capita GDP growth in every year during this period. Agriculture is the backbone of the Ghanaian economy. The agriculture sector has grown rapidly at an average annual rate of 5.5 percent in recent years, benefiting from favorable weather conditions and high world market prices for cocoa. However, growth patterns have been erratic over a longer period. Agricultural performance has not been uniform within subsectors and regionally: forestry and cocoa subsectors grew at double digit rates between 1991 and 2005, while crops other than cocoa grew at rates ranging from 1.5 to 4.5 percent.

Land expansion contributed more than yield increases to the growth of various crops. As is typical for many African countries, the yields of most crops have not increased significantly (World Bank 2007). However, the high rate of land expansion achieved in recent years may be difficult to sustain, especially when taking environmental concerns into account. The level of adoption of agricultural technologies is still low in the country. Reaching the productivity targets that the country has set for different crops will require rates of growth in productivity that are far higher than what have been achieved in the past (Breisinger et al. 2008).

In 2007, the Ministry of Food and Agriculture (MoFA), which leads the sector, revised its Food and Agriculture Sector Development Policy (FASDEP) through broad consultation. The policies of the Ministry, its financial management, and the organizational capabilities to implement FASDEP II have become more important than ever, as the activities of the Ministry are increasingly financed through budget support from development partners, rather than through projects. Whether the Ministry has the capacity to effectively implement the policies and strategies that it has developed recently is an important issue, which needed to be assessed and reviewed in light of the increase in funding it is likely to receive following the Comprehensive Africa Agriculture Development Programme (CAADP) roundtable, as several donors are scaling up support to countries that are committed to develop agriculture.

A thorough understanding of public expenditure management in the Ministry is required to develop effective strategies to strengthen its capacity, effectiveness, and impact. Past studies of the Ministry have focused on either expenditure management or organizational issues, dealing largely with management of and adjustment to structural changes such as decentralization (see, for example, Okorley, Gray, and Reid 2009). Past studies have not considered whether linking expenditures, processes, and outcomes could improve effectiveness. Hence, there is a need to examine the internal processes relating public expenditure management with institutional capacity and outcomes. Hence, the Ministry initiated the institutional and public expenditure review described in this report.

Objectives of the Institutional and Public Expenditure Review

The overall objective of this review is to generate policy-relevant insights to improve the capacity of the Ministry regarding public expenditure management, manpower, and organizational processes to effectively implement the agricultural sector strategy that it recently developed.

More specifically, the review seeks to answer the following two broad questions:

1. Are there institutional and managerial reforms that can be implemented to make MoFA more effective in leading the agricultural transformation process?
2. Are investments in the sector adequate, and are funds being spent effectively in the sector and by the Ministry?

The review has two distinct but related components: an institutional review that examines the first question and an expenditure review that largely deals with the second question. The report integrates the expenditure and institutional reviews to offer common recommendations.

The purpose of the institutional review is to analyze the institutional arrangements in MoFA, including its organizational structure and its human resource management systems, in order to identify areas for improvement in the short and medium terms. The specific objectives are

- to identify critical factors that the Ministry can influence to improve its performance by developing an understanding of
 - staff workload through examination of core processes within a unit,
 - organizational capacities and major deficiencies through examination of skills and processes, and
 - structural factors, both internal and external, that influence performance;
- to examine accountability of various units to the organization and of the Ministry to stakeholders outside, including donors, and to identify how accountability may be strengthened;
- to examine opportunities and challenges in performance assessment of individuals, units, and the organization and to explore how recent efforts to initiate monitoring and evaluation and to establish performance indicators for budget support can be utilized in order to improve performance assessment and accountability at various levels;
- to examine capacity levels, in particular skills, to identify options for more effective expenditure management in the Ministry; and
- to examine the implications of decentralization for organizational capacity and to identify measures to strengthen capacity through greater accountability to clients.

The key objectives of the expenditure review are

- to assess the amount and composition of public expenditure in the agricultural sector;
- to identify indicators for measuring outcomes of spending in the agricultural sector
- to examine budget processes and coordination in the agricultural sector to bring about consistency between policies and expenditures to improve the provision of public goods and services; and
- to assess the implications of decentralization for the provision of public goods and services in the sector.

Methodology

The institutional review was based on the collection of data through interviews and case studies in selected districts, complemented by two organized consultations with senior management and consultations with a group of retired staff. The expenditure review primarily involved collection and analysis of statistical data. The review was undertaken between January and July 2008.

Institutional Review

The study focused on the workings of selected district offices, as organizational strengths and weakness are likely to be most noticeable at the points of service delivery, and on discussions with division directors at the head office. After a preliminary document review, the team conducted a study at the East Akim District Agricultural Development Unit (DADU) to understand in how the district offices function and to identify suitable approaches to capturing relevant aspects of the functioning of the DADUs.

Following the East Akim study, the team presented the research plan to regional and national directors in a meeting organized in Accra. They recommended four districts for case studies, one in each of the agroecological zones (coastal, forest, transition, and savannah) to capture any differences in challenges faced by the districts in delivering services. The team based its selection of districts on the recommendations of the Ministry, even though the Ministry's choices might be biased toward better-

performing districts. We reasoned that it is likely that problems identified in better-performing districts are also likely to be prevalent in districts that perform less well, and it is those widespread problems that require priority attention. To ensure the anonymity of the respondents, the districts are referred to as C1 (Coastal Zone), F1 (Forest Zone), T1 (Transition Zone), and S1 (Savannah Zone).

The DADUs in the selected districts were requested to compile specific information before the team's visits.. During the first three weeks of February 2008, a team of consultants visited the districts to interact with staff and collect the necessary information.

In the districts, senior officers were interviewed individually and group discussions were held with the field staff. In addition, the following data were collected from the district offices: (1) details of performance assessment for one year; (2) details of dates of recruitment, promotions, and current positions of all staff; (3) annual work plans, progress, and financial reports. Each staff member was asked to provide the following information: (1) a list of activities carried out in the previous five days, including distances traveled, time spent interacting with farmers, and number of farmers contacted, and (2) a history of training and promotions received during their employment with the Ministry. In addition, staff members were asked to respond to a survey instrument that included questions relating to their "world view" or mental frame relating to various issues relevant to their work, their perceived work environment, and perceptions regarding accountability mechanisms. The survey was completed by 67 staff members—more than three-quarters of the staff in these offices.

The study also utilized data collected through a survey by the Institute for Statistical Social and Economic Research (ISSER) and the International Food Policy Research Institute (IFPRI) as part of the project "Making Rural Service Provision Work for the Poor," which focuses on rural water supply and agricultural extension. The survey covered households, elected and appointed District Assembly members, District Assembly staff, farmer-based organizations, agricultural extension agents (AEAs), and organizations involved in rural water supply. The data presented in this report were collected in six districts, two each in the Forest, Transition, and Savannah zones. To ensure the anonymity of the respondents, the names of the districts are not disclosed here. One district, F1, was included in both the survey and the review.

Public Expenditure Review

The data on public agriculture expenditure were primarily obtained from the Controller and Accountant General's Department (CAGD), MoFA, the Council for Scientific and Agricultural Research (CSIR), the Ghana Cocoa Board (COCOBOD), the Ministry of Road Transport, the Ghana Statistical Service, and many other institutions. Published data were also used. The information obtained from these agencies and from the case study interviews was used to analyze a number of factors relating to institutional performance.

In examining expenditures, the following analyses were undertaken: trend analysis to assess the size and composition of public (mainly government) expenditure in the agricultural sector, unit cost analysis to assess the efficiency of providing public goods and services in the sector, benefit incidence analysis to assess the effectiveness of delivery and utilization of public goods and services in the sector, case studies to identify the binding constraints for improving public agriculture expenditure management and delivery, and analysis of utilization of public goods and services in the sector.

Organization of the Report

The report is organized as follows: The institutional review is presented in section 2, which begins with a conceptual framework followed by diagnostics. Section 3 presents a review of expenditures. Section 4 offers a set of recommendations.

2. INSTITUTIONAL REVIEW

This section examines the institutional factors that influence the performance of MoFA. First, it presents a conceptual framework to identify the factors and interactions that influence the performance of a complex public organization such as MoFA. Second, it uses the framework to diagnose the situation in MoFA.

Conceptual Framework

Figure 1 presents the conceptual framework used for the review, which was adapted from standard and agriculture-specific approaches to organizational assessment (see, for example, Lusthaus et al. 2002; Birner and Witmer 2006). The boxes and arrows in Figure 1 indicate how context and organizational factors affect the ability of an organization to improve its performance and achieve its ultimate impact.

Mission and Functions

The mission and functions of an organization emerge from the context in which it operates. Ideally, the mission and functions of agriculture-related ministries, departments, and agencies (MDAs) should be derived from the agricultural development strategy of a country, which is part of its broader development strategy. The conceptual framework posits that these strategies and policies are influenced by (1) the characteristics of the agricultural sector, which determine the market failures that are inherent in agricultural development and that require public-sector intervention, and (2) the political and administrative context in which policies are made. Ultimately, how much state involvement a country chooses to pursue in its agricultural sector is a political choice, even though this choice has to be made in view of economic and administrative constraints and opportunities. The MDAs themselves also influence the process of formulating the agricultural strategy and identifying their mission and functions, as indicated by the double arrow in Figure 1.

Organizational Capacity

The organizational capacity to perform is determined by the fit of the institutional structure to the functions it is expected to perform (what we call the “hardware”), the planning and management processes within the institution (the “software”), and the resources available to the organization. The institutional structure of the sector is constituted by the types of MDAs that exist in it, their roles, and their coordination mechanisms as well as the internal structure of individual MDAs such as MoFA. The institutional setup of the MDAs is typically embedded in the general system of public administration, and changes typically require a political process and change in legislation. The management processes, in contrast, are softer and include aspects such as leadership roles and styles of managers; coordination of multilevel planning processes, including stakeholder consultations; effective costing of budgets; use of monitoring and evaluation systems; and information flows and coordination mechanisms within and between MoFA and other actors. The resources available to the organization include the people that work in the organization, the financial resources available to compensate the staff and provide them with complementary inputs to perform their functions, and the infrastructure with which they work. Organizational capacity also influences and is influenced by coordination and competition of the various stakeholders within the sector, including other MDAs, donors, the private sector, alternate service providers, and clients/farmers.

Organizational Incentives and Functioning

Whether capacity translates into performance depends on the incentives facing the organization. Institutional reforms often neglect issues of incentives and motivation, assuming that changes to institutional structures, management processes, resources and methods, or capacity directly lead to better performance. It is, however, not feasible to effectively strengthen capacity without suitable incentives or

sanctions for good or poor performance. Organizational motivation depends on the pressure on the organization's leadership or staff to perform, which may come from the political realm. Likewise, organizational culture, including its tolerance of corruption or mismanagement is an important factor that influences how processes function in practice.

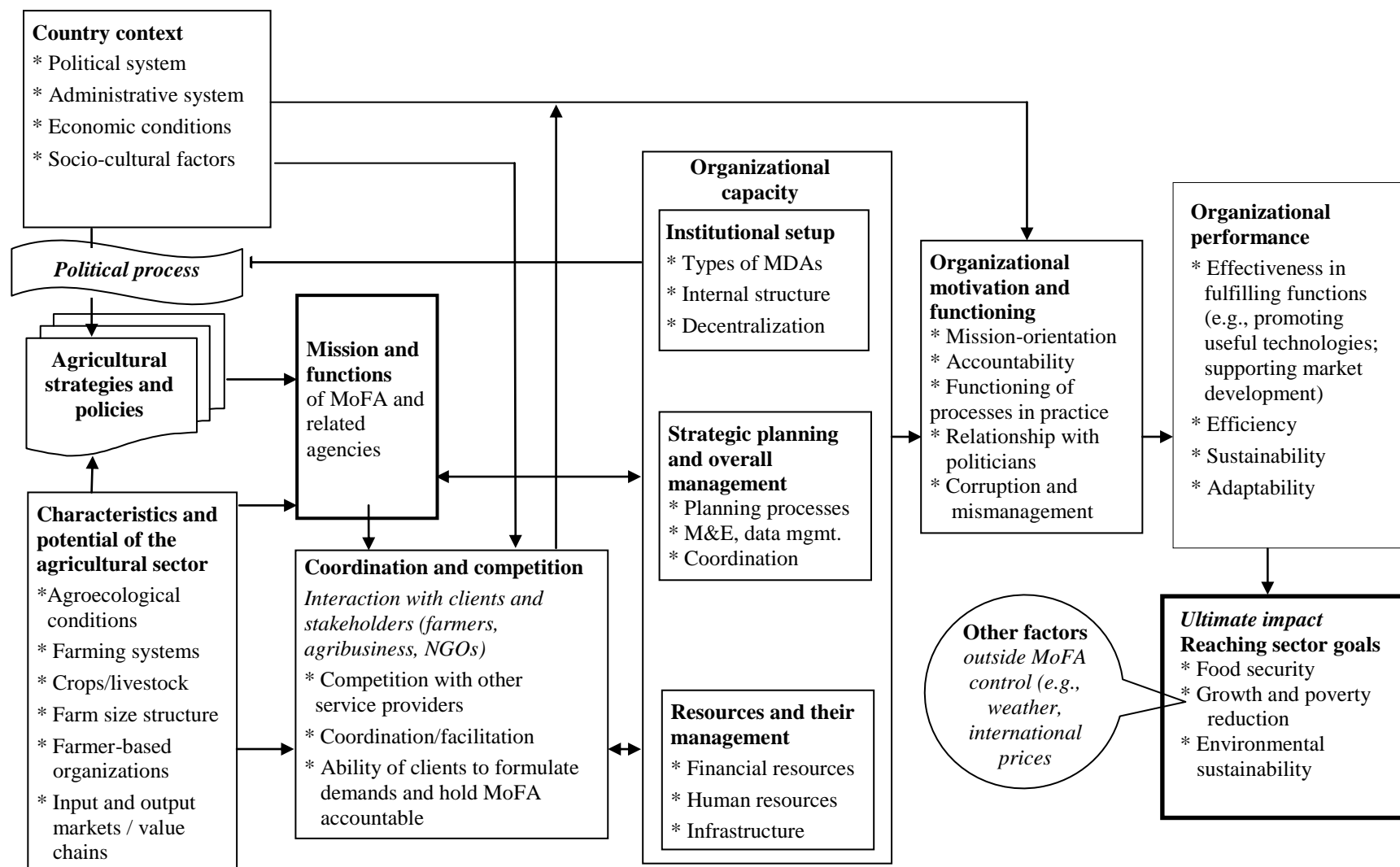
Organizational Performance

The goal of public-sector reform in agriculture is to improve the organizational performance of MDAs. Important dimensions of organizational performance include effectiveness, efficiency, sustainability, and adaptability.

The Ultimate Impact: Reaching Sector Goals

The performance of the MDAs influences the achievement of the agricultural sector goals, such as food security, increased agricultural production, improved livelihoods of farm families, contribution to economic growth, and environmental sustainability. To assess organizational performance, it is essential to collect indicators on these ultimate outcomes. However, one needs to take into account that these outcomes are also influenced by factors that lie outside the control of agricultural MDAs, such as weather events and international prices.

Figure 1. Conceptual framework



Source: Authors. Notes: MDA stands for ministries, departments, and agencies. M&E is monitoring and evaluation

Country Context

Past Performance of Ghana's Agriculture¹

Agriculture continues to be the backbone of the economy that has recorded positive per capita GDP growth over the last 20 years. Agriculture accounts for 40 percent of GDP and about 75 percent of export earnings, and it employs 55 percent of the labor force (not including upstream and downstream activities of agricultural production). As mentioned in the introduction, the agriculture sector has grown more rapidly (at an average annual rate of 5.5 percent) than the rest of the economy, which has expanded by 5.2 percent per year in recent years (Bogotec et al. 2007). Growth in food production has outpaced growth in population between 1995 and 2003: the Food and Agriculture Organization of the United Nations (FAO) estimates that food production in Ghana increased by 3.6 percent, while population grew at 2.2 percent (FAOSTAT 2006). Although food security is not determined by availability or domestic production alone, it is encouraging to note that food deprivation has declined during this period: The number of malnourished fell from 5.8 million in 1990–92 to 2.4 million in 2001–03; the proportion of the population that is malnourished fell from 37 to 12 percent during the same period.

Recent agricultural growth has benefited from favorable weather conditions and world market prices for cocoa. Although Ghana has experienced accelerated growth in the last five years, over a longer period growth has been more erratic: between 2000 and 2005, agricultural growth rates ranged from 2.1 to 7.5 percent; between 1990 and 2006, growth rates were negative for two years and less than 4 percent for six more years. Given these fluctuations and dependence on climatic conditions and land expansion, the sector is expected to grow about 4.2 percent in the next decade (Breisinger et al. 2008). Agricultural performance has not been uniform within subsectors and regionally. Forestry and cocoa subsectors grew at double digit rates, while crops other than cocoa grew at rates ranging from 1.5 to 4.5 percent between 1991 and 2005. Regional growth has varied as well: the Northern Savannah is the main producer of cereals and livestock, and more than 70 percent of the country's sorghum, millet, cowpeas, groundnuts, beef, and soybeans comes from the northern zone.

The rate of growth achieved in recent years may be difficult to sustain, as growth has mainly been achieved through land expansion. The contribution to agricultural growth from land expansion and yield increases varied between 1992 and 2005, but in general, land expansion contributed more than yield increases. The yields of most crops have not increased significantly. In some cases, yield growth has even been negative over the last 13 years, as is the case for maize, sorghum, and yam in the Northern Savannah Zone. The yield decline is attributed to continuous cropping without adequate application of nutrients. These conditions also limit the potential for area expansion-led growth of production. In cocoa, too, some of the increase in production has come at the expense of destruction of valuable forests. The inability to obtain reliable supplies of raw material of acceptable quality at globally competitive prices appears to limit development of competitive agro-industries.

The level of adoption of technologies is still low in the country. An analysis of the Ghana Living Standard Survey (GLSS) data for the expenditures component of this study suggests that only about 20 percent of the households had adopted various improved practices. In general, the adoption of improved seed was highest (about 25 percent of all households), followed by chemical fertilizers (21 percent), and pesticides—herbicides and insecticides— (18 percent). Between 5 and 10 percent used organic fertilizers and purchased feed and veterinary services, while less than 1 percent of all households used irrigation.

If the productivity gaps are any indication, the potential for increasing productivity is considerable. Yield gaps, the proportion of potential yields not achieved, are particularly significant for cereals and tubers: 42 percent for maize, 38–40 percent for rice, 46 percent for millet, 56 percent for cassava, and 67 percent for yams (Ghana, Government of 2010). Closing the yield gaps is likely to be far more challenging in the northern region where conditions are less favorable. The productivity targets that the country has set for different crops to achieve by 2015 are consistent with productivity levels that

¹ This section draws heavily from Breisinger et al. 2008.

require 6 percent growth. But the rates of growth in productivity that are required are much higher than the growth rates achieved in the past.

Ghana's Strategy for Food and Agricultural Development (FASDEP)

A well-developed policy framework is important for setting priorities and guiding the activities of a ministry. The policy framework also provides the reference against which the institutional performance of a ministry can be assessed. In the last 10 years, MoFA has developed three policies: (1) the Accelerated Agricultural Growth and Development Strategy in 1996 and (2) the Food and Agriculture Sector Development Policy (FASDEP) in 2002, which supported implementation of (3) the Ghana Poverty Reduction Strategy (GPRS I) 2003-2005. After four years of broader sector participation, FASDEP was revised in 2007. The revised policy, FASDEP II, identifies the following approach as a new direction: "The Government of Ghana now wants to have a focus in its efforts for greater effectiveness, sustainability and equity in impacts. In particular, a few commodities will be targeted for support. A value chain approach to agricultural development will be adopted with value addition and market access given more attention."

FASDEP II explicitly recognizes the role of several ministries and organizations in transforming agriculture, and it assigns the coordination role to MoFA. Additionally, the country's commitment to pursue the CAADP agenda offers an opportunity for MoFA to strengthen its leadership role.

In the draft sector plan, there is considerable emphasis on effective transfer of available technologies and additional investments in research primarily to develop new varieties that thrive under harsh conditions. Other frequently cited interventions include irrigation development, development of mechanization services, value chain development, and intensification of farmer-based organizations and outgrower schemes.

MoFA's Mission and Functions

The vision, mission, and objectives that MoFA has articulated for itself appear broadly in line with the emphasis on growth and value chain development in FASDEP II. The one FASDEP II objective that does not feature strongly in MoFA's organizational presentation relates to equity and poverty reduction. Still, in line with the conceptual framework, one can assume that the organization's mission is derived from sectoral policies.

MoFA's vision statement reads: "The vision of the Ministry is to accelerate growth in agricultural productivity through modernization of the sector to enhance rural development."²

The Ministry's mission is "to promote sustainable agriculture and thriving agribusiness through research and technology development, effective extension and other support services to farmers, processors, and traders for improved livelihood."

MoFA defined six major objectives for itself:

1. Food security and emergency preparedness
2. Increased growth in incomes
3. Sustainable management of land and environment
4. Increased competitiveness and enhanced integration into domestic and international markets
5. Application of science and technology in food and agricultural development
6. Effective institutional coordination

Considering the overall importance of the mission statement in generating a buy-in for an organization, both internally and externally, the statement could be formulated in more detail. The objectives are clear, but they are a mix of ultimate goals (such as food security), intermediate goals (competitiveness), and means to achieve these goals (application of science and technology, institutional

² The mission statement is cited on MoFA's official website at <http://mofa.gov.gh/> (accessed August 24, 2008).

coordination). Moreover, how the organization would go about achieving some of the objectives is not articulated adequately. The ambiguity may lead to the Ministry taking up activities that may be better left to the private sector.

Organizational Capacity

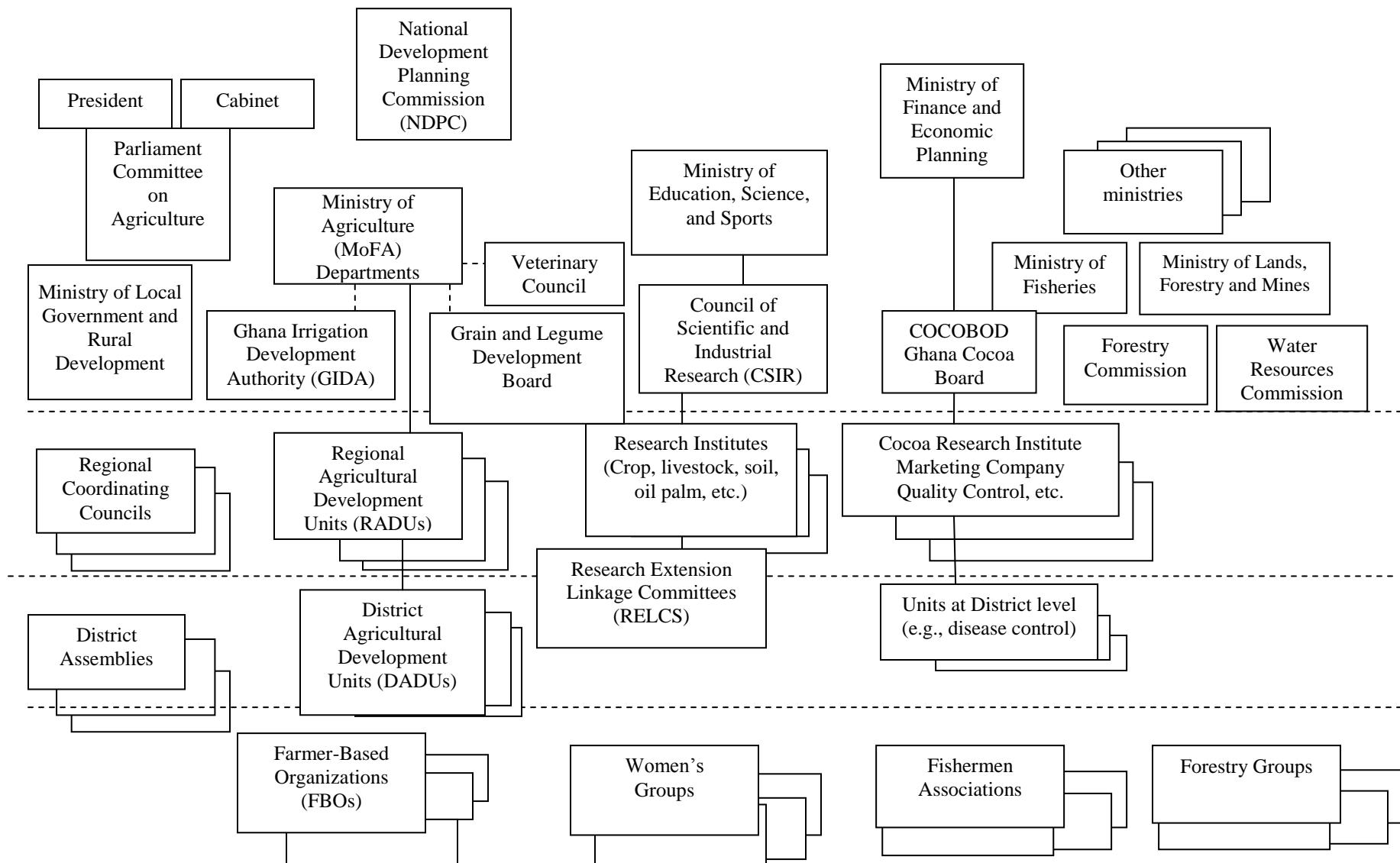
Institutional Setup: Need for Sector Coordination

As shown in Figure 2, the institutional landscape of the agricultural sector is rather complex. MoFA is the lead agency for the agricultural sector. However, the complexity of the institutional environment in which MoFA operates creates significant demand for horizontal coordination with numerous other organizations:

- The Ghana Cocoa Board (COCOBOD) holds the major responsibility for cocoa production and is itself a complex organization with eight directorates and seven units, including the Cocoa Marketing Company (Ghana), Ltd., the Cocoa Research Institute of Ghana, and the Seed Production Unit. COCOBOD was responsible for advisory services to cocoa farmers before this function was transferred to MoFA in 2001.
- Agricultural research is organized under the Council for Scientific and Agricultural Research (CSIR), which falls under the Ministry of Education, Science, and Sports. CSIR operates nine research institutes related to food and agriculture.
- A separate Ministry of Fisheries was created from MoFA's domain in 2005 but reemerged after the 2009 change of government.
- The Forestry Commission, under the Ministry of Land and Forestry manages Ghana's forestry resources.
- The Ministry for Local Government, Rural Development, and Environment is in charge of the District Assemblies, which—in principle—subsume the DADUs, as discussed below.
- The National Development Planning Commission (NDPC) is in charge of overall development planning, including planning at the district level.
- Other ministries relevant for agricultural development include the Ministry of Trade and Industry, Private Sector, and the Presidential Special Initiative; the Ministry of Roads Transport, especially the development of feeder roads; the Ministry of Women and Children Affairs regarding, for example, agroprocessing support and child labor issues; and the Ministry of Manpower, Youth, and Development, which is also involved in agricultural-based development projects.

MoFA, in which 7,000 of the nearly 650,000 public-sector workers are employed, also has a complicated internal structure as discussed below. In addition to seven technical directorates, it manages four semiautonomous agencies, which are referred to as “subvented” agencies in Ghana: the Ghana Irrigation Development Authority (GIDA), the Grain and Legume Development Board, the Irrigation Company of Upper Region, and the Veterinary Council. At the regional level, MoFA is represented by the Regional Agricultural Development Units (RADUs) and at the district level by the DADUs.

Figure 2. Institutional landscape of the agricultural sector



Source: Authors.

According to the information collected for the review, the Ministry makes a significant effort to involve various organizations in its planning activities and to identify the linkages that are required to effectively implement different activities. Ensuring coordination in the implementation, of programs, however, seems to be a challenge. For example, MoFA had little or no input in the implementation of crop-based Presidential Special Initiatives (cassava and oil palm) formulated and implemented under the Ministry of Trade and Industry, Private Sector, and Presidential Special Initiative, according to a retired director of the relevant directorate in the Ministry. Likewise, there was very little collaboration between MoFA and the Ministry of Lands, Forestry in implementing the country's agroforestry programs. Under FASDEP I, MoFA proposed to create an interagency committee to include representatives of the private sector to act as a national agricultural advisory committee for the sector that would oversee resource allocations, but the committee was not established.

Challenges of Decentralization

Along with a complex external institutional environment, MoFA's internal structure has become increasingly complex due to pressures to decentralize.

MoFA's current structure is partially dictated by Ghana's public-sector reforms. Like other ministries, MoFA has four line directorates as stipulated in the civil service law, the 1993 Provisional National Defence Council Law (PNDCL) 327, sec. 12 (1): Finance and Administration; Policy Planning, Monitoring, and Evaluation Directorate; Human Resource Development and Management; and Statistics, Research, Information, and Public Relations. MoFA has seven agriculture-specific technical directorates: (1) Crop Services, (2) Agriculture Extension Services, (3) Plant Protection and Regulatory Services, (4) Agricultural Engineering Services, (5) Animal Production, (6) Veterinary Services, and (7) Women in Food and Agricultural Development. MoFA is also in charge of the four subvented organizations mentioned above.

In addition, MoFA has embarked on a significant effort to decentralize its administration, following national efforts to decentralize the civil service that began with the promulgation of PNDCL 327. MoFA's decentralized structure now comprises 10 RADUs and 138 DADUs. While decentralization has met with considerable resistance from the bureaucracy in many sectors (G-JAS 2007), MoFA is in fact one of the ministries that has actively pursued decentralization.

A detailed *Handbook on the Roles and Responsibilities of MoFA Staff under Decentralization* (MoFA 2005) was written to clearly outline the assignment of functions to different levels in an effort to deal with the tension between national-level coordination and local adaptability inherent in decentralization of the agricultural sector. The division of responsibilities is laid out as follows:

- The national directorates are assigned the roles of policy formulation, program planning, facilitation, technology sourcing, promotion of market accessibility, exercise of oversight responsibility over the regions, and coordination and evaluation of outcomes.
- The RADUs are responsible for coordination and monitoring of agricultural programs and projects in the regions and districts and also for backstopping the DADUs. The 10 RADUs are headed by regional directors, who manage a staff of regional agricultural officers.³⁴
- The DADUs are the service delivery units and are assigned the role of managing projects and programs, decentralizing planning, and implementing national agricultural policies and decisions at the district level. The districts report to the regions but receive funds directly from the center, thus diminishing the regional oversight function. They are headed by district directors, a position created by decentralization, who manage a staff of district development officers (holders of at least a diploma certificate), and AEAs.

³ The position of the Subject Matter Specialist was abolished due to unclear responsibilities.

Before decentralization in 1997, MoFA was organized hierarchically along departmental lines as follows: (1) head office, (2) technical departments, (3) regional offices (officers had allegiance to technical departments), and (4) district offices (officers reported to regional technical heads). Decisions regarding planning and implementation were made at the head office. All the technical departments were replicated in regions and districts; in all the districts there were officers of the various technical departments. Regional directorates functioned as intermediaries, transferring information in both directions: they offered technical backstopping and supervision and controlled the flow of funds to some extent. Each technical department planned its activities more or less independently with little coordination with other departments. While the Ministry had a tendency under this structure to implement disjointed interventions--each of the technical departments had autonomy to design and implement their projects without cross-departmental coordination--members of senior management perceived that accountability within the organization was high. Accountability to the directors based in Accra was clearer and communication flowed easier when instructions could be handed down a clear vertical chain of command that encompassed a group of people that shared the same technical specialization.

Restructuring diminished the role of the technical departments, as project and program implementation is now assigned to the RADUs and DADUs. Under the new structure, the functional units of the technical departments do not exist at the regional and district levels. The technical directorates are now independent cost centers that are accountable for tasks that are quite different from services delivered through districts and regions (except that they may implement projects housed in them).⁵ Under the new system, the accountability of district and regional offices to the Office of the Chief Director has increased, while their accountability to the technical directorates has decreased, since the technical directorates that were “line” organizations before have become “staff” organizations. The wider range of responsibilities held by district staff has also made their objectives less clear.

The distinctions between the old and new structures are important because our discussions with the staff suggest that they continue to believe that the previous structure was far superior, and therefore, they are not fully committed to making the new structure work. The new structure has two advantages: the organization is potentially more accountable to local governments, and decentralized planning that is responsive to local needs becomes more feasible. But the structure is managerially challenging as institutions need to be crafted to facilitate the required interaction between technical and implementation units.

Strategic Planning and Overall Management

Structural changes need to be associated with corresponding changes in management processes to produce results, especially considering that much of MoFA’s institutional structure is fixed by broader public-sector reform processes. Those units, such as the technical directorates, that have been moved to the periphery of the structure could nevertheless be strongly tied into the accountability flows of the organization through appropriate management processes. This section looks at MoFA’s “software”—the processes and practices that govern the flow of directions, knowledge, information, and accountability throughout the organization. The study finds that, overall, process changes have not accompanied the dramatic structural changes described above, to the detriment of organizational performance.

Implications of Decentralization for MoFA’s Management Processes

The decentralized structure of MoFA results in a number of management challenges:

- The decentralized units now have greater control over planning and delivery of services in their units. But they are challenged to reconcile these local priorities, which may have been identified through extensive participatory processes, with national priorities and strategies

⁵ Veterinary services where specific functions are performed by district-level officers are an exception. Such services are directly related to objectives of service provision in veterinary and animal production technical directorates.

such as FASDEPII. What complex iterative planning processes are required to develop higher-level strategies that adequately reflect local priorities, particularly concerning budget processes?

- The technical capacity required for finding solutions to certain agroecological or marketing problems may exist only in the technical directorates. What mechanisms are required to ensure that the decentralized units bring the technical capabilities in the organization to bear in solving those problems?
- As the technical directorates take on a supporting role in technology transfer, how can they ensure that their activities are effectively addressing the problems faced by decentralized units? How can they be kept relevant and responsive?
- The district units may not have much interest in national “public goods” such as disease surveillance or data collection. How can MoFA ensure that decentralization does not affect the performance of tasks that are in the national interest?
- Prior to decentralization, staff members in districts and regions had control over funds or had funds allocated to them. This control is now concentrated among district and regional directors, apart from project directors. Not all district and regional agriculture officers are guaranteed what they consider their fair share of allocations. Lopsided allocations may reflect local priorities. How can rational allocations be ensured? What should be done if local priorities deviate from staff specializations?

MoFA has made important efforts to meet these challenges, especially in response to the last MoFA review, which focused on decentralization and recommended that to improve overall efficiency in service delivery and increase the morale of its staff, MoFA needs to (1) improve its organizational structure and review job descriptions, (2) adopt a more consultative and transparent management and leadership style, and (3) improve resource allocation by shifting resources from the national level to regions and districts. As indicated above, MoFA has developed a detailed handbook on the roles and responsibilities of MoFA staff under decentralization (MoFA 2005), and the reporting system, which had almost broken down, has improved considerably. However, the evidence collected for this study suggests that considerable management challenges remain. Problems still exist in the following areas:

Technology assessment processes. The technical directorates, which do not themselves engage in any research, are responsible for assessing technologies for promotion through the extension system. They may select technologies available on the shelf for suitable applications, or they may commission research organizations to develop technologies to address particular problems or opportunities. They are also expected to test available technologies for suitability under different conditions, usually in collaboration with research organizations.

The study did not find evidence of periodic assessment of the technologies that are promoted by the extension staff. The maize production guide that was produced in the late 1990s, for example, suggests that the cultivation of *Obatampa*, a popular variety of maize, yields about 18 bags per acre with recommended practices. However, the baseline studies conducted for a Food Crop Development Project suggest that *Obatampa* yields increased from an average of 4.5 bags per acre to only 9–10 bags in the selected districts in which the program was implemented. Technology development and assessment needs to be a continuous process that ensures a supply of productivity-enhancing technologies that are profitable for farmers.

DADUs and the RADUs disseminate the technologies, with the regions coordinating and monitoring the activities of DADUs. The RADUs also play a role in technology development through the organization of Research Extension Linkage Committees (RELCs) that bring together farmers and other stakeholders with the Ministry and the research community. The objective is to influence the priorities of researchers by providing an opportunity for farmers and other stakeholders to articulate their needs. Additional measures such as competitive grants are also used to create incentives for researchers to develop technologies that are appropriate.

Relation of technical directorates to service delivery units (DADUs). As noted, the position of the technical departments does not allow them to directly play the role they could in promoting MoFA's mission. They have been moved from line positions, in which they were directly involved in the delivery of services, to staff positions in which they play a supportive role. Their staff feels largely sidelined, as a consequence. In particular, the possibilities of the staff in the technical directorates to effectively interact with district-level staff are limited since they are no longer able to instruct DADU staff to perform specific tasks or reach specific goals. This sidelining has diluted the accountability of the technical directorates for bringing about technical change in the sector. At the same time, it has diminished the upward accountability of the field staff, without, however, replacing it with stronger accountability to either the farmers or locally elected government members (see below). As a consequence, extension has become technically weaker under this system.

The nature of technologies that are being demonstrated indicates this technical weakening. On the basis of discussions with DADU staff and review of reports, the study team found that the technologies demonstrated are usually simple practices that may not require farmers to buy additional inputs, such as planting maize in rows. Other commonly demonstrated technologies are proper use of agrochemicals, adoption of improved crop varieties, improved seed multiplication methods, pest and disease control, and soil fertility improvement.

These are useful technologies that can help maintain productivity and improve natural resource management, and training in them can provide needed information to farmers. However, there is limited value in focusing on separate components of technologies —the use of certified seeds without fertilizers, fertilizer application without the use of certified seed, or row planting without the use of fertilizers or certified seeds may not lead to substantial increases in yield and profitability. In fact, this does not seem to be the most effective way to transform agriculture. Significant technical changes are usually achieved through the adoption of complementary inputs. While introducing components to farmers may be a useful strategy to move them toward the adoption of total packages, inadequate demonstration of the benefits of adopting the total package may not lead them to make that jump.

Apart from the absence of technological packages that are attractive, the situation may also be caused by the absence of strategic direction to field staff or insufficient backstopping by technical directorates.

The extension staff does not appear to receive adequate direction as to what crops to focus on and what technologies to promote. Recent policy, however, does identify the crops to focus on, particularly the staples to enhance food security. Beyond this, strategies are unclear on the kinds of technologies that should be employed to increase productivity of these crops. Discussions with staff suggest that the kind of guidance and clarity of purpose that was often present when National Agricultural Extension Projects (NAEPs) were implemented is now absent in the day-to-day operations of the Ministry.

Apart from project activities, for which they get clear directions from project management, AEAs seem to play a significant role in determining their day-to-day activities. They identify activities that they perceive will meet the needs of farmers. About a third of the staff surveyed in the case-study districts agree with the statement that the work plans that they develop may not have much to do with the work plans that are drawn up at the beginning of the year. A significant portion of them also suggest that they get clear directives from above. These two statements, however, are not contradictory, since they relate to different aspects of their work. For example, such directives may relate to the targets to be achieved, rather than to the content of the work that needs to be done. Quarterly fund disbursements may be delayed two to three months in reaching the DADUs, which makes it difficult for the district staff to implement whatever plans they may have had. Not having adequate resources to pass on to AEAs also makes it difficult for supervisors to demand that certain activities be carried out. Under these circumstances, staff does the best they can to keep themselves busy.

An example of an activity undertaken in a district without adequate backstopping is the introduction of guinea corn in one of the districts visited. The staff decided to introduce guinea corn in the district because the crop can perform well in conditions harsher than those required for maize cultivation. This is a good example of an extension service finding a technical solution to a local problem, but the

DADU undertook this activity without involving either the regional office or the technical directorate. A staff member who had traveled to the north obtained some seeds for distribution in the district. It is not clear to what extent they made effective use of expertise in the organization or assessed the outcome, feeding the results into larger strategies relating to the potential for introducing new crops under different environments.

Relation of technical directorates to MoFA's leadership. A problem related to the limited interaction between technical departments and DADUs is that the Ministry's leadership at the time of this assessment appeared to bypass the technical directorates in implementing programs. In interviews, staff of the technical directorates noted the decline in their interactions with the minister's and chief director's offices. In particular, staff expressed serious concern that many programs were initiated and implemented by the two offices without discussion with either the technical directorates or the planning unit in the Ministry. Thus, they sensed that core functions of the Ministry were becoming "nontechnical." It may well be that the difficulty of going through lengthy processes under pressure for results has led to a tendency to bypass mid-level management. However, bypassing the technical staff leads to the underutilization of one of MoFA's most important assets--its technical expertise and experience. Therefore, making the process of dealing with the technical directorates more effective is an important area for improvement.

Internal communication and coordination. Effective internal communication, which is key for any organization, is essential for an organization like MoFA that operates all over the country, including the remotest areas. Nevertheless, the results of the review indicate that a culture of documenting and sharing information is not predominant within MoFA. This may be linked to a broader management culture in Ghana, which places more emphasis on personal relations and interactions than on institutional procedures. In fact, meetings seem to substitute for routine processes that could achieve the same objective. As a consequence, meetings and travel seem to take an inordinate share of the time of senior managers. Information technologies, especially email, intranet, and internet, which could make communication over space more effective and more inclusive, have not been introduced in a consistent manner.

Relations between DADUs and District Assemblies. The thrust of the decentralization policy was to make regional and district units much more autonomous, to make them accountable to respective local governments, and ultimately, to integrate them with the local governments. A 2002 review of MoFA found that these goals had not been achieved at that time. Rather the review characterized MoFA as a deconcentrated organization because lines of accountability remained largely within the Ministry, rather than with local authorities. The current study finds that in 2008, the situation remains essentially the same. The official linkages between DADUs and the District Assemblies are mostly concentrated in the person of the district director of agriculture and relations vary considerably between districts. The actual relations depend not only on the initiative of the district directors, but also on the extent to which District Assemblies are pro-active in involving sector departments in their planning and making use of the respective institutional coordination bodies and procedures. AEs interact frequently with District Assembly members in their operational areas but mostly to gain their support in setting up meetings or similar activities. This does not imply that extension staff is accountable to Assembly members.

At the same time, the lagging institutional integration of the DADUs with the District Assemblies is not largely the fault of MoFA, even though the Ministry could do more from a management perspective to foster a closer relationship. Rather, institutional integration has not happened because Ghana, in general, has not moved ahead with regard to implementing decentralization. In particular, a Local Government Service, which was mandated in the Local Government Act of 1993 to make the DADU staff accountable to the District Assemblies, has not yet been implemented. Also, a composite budget, which would reflect an aggregate budget for all line ministries and local government units operating within a district, has only been implemented on a pilot basis.

That the Ministry apparently has not taken far-reaching steps to sensitize field staff about future decentralization plans is of significant concern. Only half of the MoFA district staff interviewed for the ISSER-IFPRI survey had ever heard about plans to make MoFA staff part of the Local Government

Service. Those who heard about it were mainly concerned about problems such as increased political interference and deteriorating working conditions. Yet there seems to have been little discussion on how such problems could be avoided. It might be useful if MoFA management would communicate internally more comprehensively on these issues, in order to assuage the field staff's concerns about what decentralization will mean to their careers and performance of their functions. It is not clear whether change management teams have been installed to help staff understand and cope with structural changes, as recommended in an earlier review.

Planning, Data Management, Monitoring, and Evaluation Functions

In order to fulfill its mission and make sure that Ghana reaches its goals for the agricultural sector, MoFA needs to be able to plan strategically, to collect adequate information about the development of the sector, to evaluate the outcomes of its efforts and that of other agricultural MDAs on a regular basis, and to adjust its operations accordingly. Reaching sectoral growth targets requires the ability to analyze what MoFA actually can do to increase productivity in areas where farmers' incentives to adopt new technologies are low. The Ministry needs to be able to identify the most binding constraints and concentrate strategically on removing them, while promoting the most promising options. With a Policy Planning, Monitoring, and Evaluation Directorate and a Statistics, Research, Information and Public Relations Directorate, MoFA has the institutional setup to fulfill these tasks.

The evidence collected for this review indicates substantial improvements but also important remaining challenges regarding MoFA's processes for strategic planning, data management, and monitoring and evaluation. The 2002 review found that the reporting system had almost broken down. In response, MoFA has made substantial efforts to improve its reporting system. This review found that timely reporting has improved considerably, and a monitoring and evaluation culture in fact has taken root. Thus controls are adequate in the Ministry down to the field staff level to get done the things in which the Ministry is interested. However, the potential for monitoring and evaluation to contribute to reaching sector goals is still not fully used for two reasons: first, there is little emphasis on linking activities to outcomes. Second, the information collected is hardly used for management and control purposes. The reports focus on the achievement of targets for activities/outputs without paying adequate attention to the effectiveness with which the activities are carried out and their contribution to achieving the objectives. For example, the number of contacts with farmers is reported but not adoption rates or yield or income increases. The findings of the review suggest that the country's political leadership holds the Ministry as a whole accountable for avoiding food security crises, but accountability for reaching other goals seems to be rather limited. Likewise, the findings of the review suggest that the lines of accountability within MoFA are not geared toward reaching those goals. For example, there are planning procedures that require districts to formulate goals for increases in production that are in line with national planning figures. However, the study did not find evidence that the DADUs are held accountable for meeting these goals. Hence, there is little incentive to translate them into goals for AEAs and to follow up accordingly.

The review findings also indicate that the quality and reliability of the data collected are questionable, and that there is a lack of quality checks in the system. For example, district development officers (DDOs) are supposed to supervise AEAs and conduct verification checks on information submitted by AEAs at the DADU level before submission to the district Management Information System (MIS) officer. However, such supervision and data verification in the field seems very limited. The reasons given for not carrying out these tasks include lack of funds to purchase fuel for motorbikes and other travel expenses. Generally, use of information for management decisionmaking seems limited at all levels. At the district level, for instance, the existing data management system is not optimally used by the district directors of food and agriculture (DDAs), and there is very little evidence of information flow back from the regional MIS officers to the District Directorate or from the District Directorate to the AEAs.

Planning in an era of decentralization is also a challenge. In decentralization theory, planning is seen as a politico–technical dialogue and process in which community participation and intersectoral and interdisciplinary collaboration are integral parts of the process, involving monitoring and evaluation of implementation to provide effective feedback. This mode of planning is at variance with traditional highly centralized planning in Ghana which has been national in scope and sectoral in nature. Relatedly, how can the Ministry make sure that decentralized planning helps meet the goals of the sector, as defined in the policy framework?

Planning procedures can play an important role in this regard, and MoFA has in fact devised planning processes that require districts to take national sector goals into account. The RADUs are expected to play a major role in coordinating district-level planning and aligning it with national goals. However, this review indicates that MoFA has not yet been able to gear its decentralized machinery effectively toward reaching national goals. For example, the DADU staff members interviewed for the ISSER–IFPRI survey listed targets for their work that had no clear connection to the agricultural sector goals as specified in FASDEP. Only one interviewee mentioned increasing production as a target.

Another reason for the limited orientation to outcome and results of MoFA is the use of monitoring and evaluation indicators. FASDEP II lists almost 60 indicators that the Ministry should monitor. Collecting and managing information on such a broad range of indicators is challenging, and the opportunity cost of collecting such an aggregate may not be efficient. The donor community, which has a strong influence on these indicators, has contributed to problems in this regard. MoFA should instead focus monitoring and evaluation reporting by strategically selecting a few key outcome-related indicators in addition to selected key output-oriented indicators. Moreover, there is a need to “mainstream” monitoring and evaluation indicators with other management processes by making them relevant for managers as a source of information to perform their tasks more effectively. It would be useful to have indicators that are relevant for managers in districts and regions to monitor the activities and outcomes.

Going beyond the traditional production focus in agricultural extension, the Ministry has adopted value chain development as a strategy. But there isn’t a clear understanding of how value chain development, particularly one that is led by the private sector, should be put into operation. There are instances where activities have been coordinated that contribute to private-sector value chain development. For example, East Dangme DADU, along with the representatives of a farmer organization, assisted local tomato producers in negotiating contracts and prices with the local tomato-processing company. Another example is the Ministry’s efforts to supply planting material that would facilitate private-sector exports of pineapple from the country. On the basis of these experiences, protocols should be developed to guide the Ministry in building on private-sector initiatives to improve its own effectiveness.

Resources

MoFA has approximately 7,000 employees, of whom nearly 6,000 are located in regional and district offices. Ghana’s farmers-to-extension agent ratio (1:1,500) is not unfavorable compared with other African countries. However, districts report many vacancies. Each district office is expected to have eight district agricultural officers (DAOs) and a number of AEAs proportional to district size. Two of the four districts studied had five DAOs and one had only four. AEA vacancies were especially high in the following districts: District S1 (9 out of 28), District T1 (10 out of 22), District W2 (16 out of 32). Due to staff limitations, only about 56 percent of the operational areas have designated AEAs. DADUs commonly deal with such staff shortages by neglecting services to more remote parts of the district, which is problematic from an equity perspective.

If the vacancies in these districts are representative, filling all positions in the service delivery units would require a near doubling of staff strength, which is a politically and economically untenable demand. However, this review suggests that there is scope for MoFA to make better use of its current staff through efficient management processes, especially those in supervisory positions. In addition, if districts had access to more physical resources to supplement their human capital (as discussed further

below), they could make much more efficient use of the staff they currently employ. Most of the existing employees have the technical qualifications required for their jobs and also they perceive that they have the necessary knowledge and capabilities (according to the ISSER–IFPRI survey).

At the same time, the study found that there is scope for using training more effectively to improve field-level service delivery. The bulk of training offered is concentrated among staff at higher levels and closer to Accra, as noted in an earlier study (Babu et al. 2007). AEAs in the study districts attended training sessions only once every 2 to 10 years, often for only a week or less. Furthermore, MoFA does not seem to have well-established practices that enable others to learn from those who receive training. Staff members complain that even the mentoring that was the practice in the past is no longer the case; recruits are sent directly to villages without adequate orientation or training. With poor technical backstopping, opportunities for learning on-the-job are also limited. Considering that knowledge dissemination is one of the major tasks for which MoFA maintains a large workforce of AEAs, the failure to provide adequate knowledge to this group indicates an inefficient use of existing capacity.

One method of supplementing public service providers—outsourcing extension services to NGOs and private providers—has been tried, but this approach did not leverage additional human resources for extension, since service providers used to pay existing MoFA staff to provide the services, thus topping up their salaries.

MoFA has undertaken important steps to make better use of its human resources, within the constraints posed by general civil service policies. However, there is still room to go beyond current efforts

Management of Information on Human Resources

Recognizing the importance of having available adequate information on human resources, the Ministry has set up a unit dedicated to this purpose. However, processes that enable this unit to manage effectively have not been initiated and, therefore, basic information on the number and capabilities of staff in the Ministry is not available immediately. This affects the ability of the Ministry to effectively target training or capacity development funds. It also makes it difficult for the Ministry to predict the retirement of senior staff and put into place succession plans using well-trained individuals that are not close to retirement.

Staff Performance Assessments and Promotion

According to the staff survey, performance appraisals are largely perceived to be fair by MoFA staff. However, the survey also suggests that MoFA is not making effective use of performance assessments to ensure merit-based promotion and to bring sanctions and incentives for organizational performance. Performance assessments are not made regularly in the Ministry; often they are done only when staff members apply for promotions.

With respect to staff advancement, delayed promotions are identified as a significant performance disincentive in the Ministry. The common expectation, however, that everyone with satisfactory performance will be promoted every three years is unreasonable as there may not be adequate open positions (see MoFA 2005b). Even so, our data suggest that promotions between grades often do occur within three to four years, despite staff perceptions otherwise. There is some concern with regard to gender equity in promotion. While 86 percent of the male respondents believe that male and female MoFA employees have equal opportunities for promotion, only 46 percent of the interviewed female staff believe that this is the case.

Salary and Pay Scales

Being part of the general public administration pay scale, MoFA has limited possibilities to use salary incentives to motivate its staff. Yet a large majority of MoFA staff in our sample believe they are paid too little to maintain a decent standard of living and paid less than staff in other departments who do

comparable tasks. This perception may make it difficult for MoFA to attract talented staff. At the end of 2009, the government announced a Single Spine Pay Policy to address disparities and distortions in the pay structure which is expected to benefit MoFA staff.

Workload and Workplace Conditions

Table 1 displays the self-reported hours worked by AEAs. This information was collected in the ISSER–IFPRI survey in six districts. Even though one would expect that the respondents might overreport their working hours, the table indicates that this does not seem to be the case. A considerable share reported working less than the expected hours, especially during the *Harmattan* season, when dust storms occur.

Table 1. Hours worked per week for three seasons (% of interviewed agricultural extension agents)

Hours worked (%) (N=68)	Normal	Harvest	<i>Harmattan</i>
Under 21	10.2	17.7	35.3
21-30	11.7	20.6	22.1
31-40	32.4	29.4	26.5
41-50	32.4	17.7	13.2
More than 50	13.2	14.7	2.9

Source: ISSER–IFPRI Survey 2008.

According to the information collected during the study, at the headquarter level, MoFA did take serious steps to make sure that employees were in the office as required. However, according to the interviewees, the Ministry was not able to pursue this policy, since other ministries did not have similar systems in place, and MoFA staff, therefore, did not accept this policy.

What activities and functions constitute an extension agent's workload? AEAs surveyed in this study engaged in a wide range of activities that included

- demonstration of improved production practices, natural resource management, or nutritional practices;
- training in aspects of farm enterprise management, such as bookkeeping;
- creation of awareness of an issue, such as the need to prevent forest fires or HIV/AIDS;
- organization of farmer-based organizations;
- input supply and credit recovery;
- delivery of veterinary services; and
- surveillance and information collection.

These activities are undertaken by all field staff. With the introduction of the unified extension system under the World Bank-funded National Agricultural Extension Project (NAEP), only veterinary services, data collection, and Women in Agricultural Development (WIAD) activities may be performed by specialized staff. Although activities such as credit recovery take a substantial share of the time of extension staff in districts in which special projects are implemented, demonstration of agricultural technologies and training continue to be the key activities performed countrywide.

Financial Resources and Operational Efficiency. In financing its operational work, MoFA faces a common problem. Due to financial constraints, a large share of its budget is spent on salaries, and the resources available to support field work are limited. In 2009, for example, less than 5 percent of the government funds were allocated for providing services and investments, which makes the Ministry dependent on donor funds for effective delivery of services (MoFA 2010). This prevents the Ministry from investing in complementary inputs that would make its investments in human capital more efficient. These inputs include the following:

Mobility. Mobility to and around an agent’s operational area is consistently reported as one of the biggest constraints to efficient work. Table 2 provides information about the areas covered and distances traveled by AEAs and their number of contacts with farmers. Depending on staffing levels, agroecological conditions, and size of districts, the area covered per AEA differs considerably. According to the staff survey, AEAs travel from 60 to 120 kilometers to visit villages over a period of five days. They report that they usually make more than 100 contacts during that period. A majority of AEAs in case study districts have motorbikes, and all districts have at least one vehicle. As is to be expected, both the distances traveled and the number of contacts they make are higher where a greater proportion of staff have motorbikes. Those without motorbikes spend 50 percent more time traveling than those that have motorbikes—some AEAs indicate they spend almost six hours a day in transit.

Table 2. Area covered and distances traveled by agricultural extension agents (AEAs)

	District S1	District T1	District C1	District F1
Average area per AEA (sq km)	334	635	51	235
Average distance traveled (km)	62	128	84	83
Average number of contacts	152	246	114	103
Proportion with motor bikes (%)	37.5	88.9	66.7	20.0

Source: Case studies, February 2008.

While these figures suggest that more motorbikes or other vehicles may increase the effectiveness of MoFA’s field operations, one also has to take the management challenges of providing vehicles into account. It is reported that MoFA staff members who purchase motorbikes on a loan basis frequently refuse to use them for work purposes once they fully own them. Yet if motorbikes are not individually owned, there is no incentive to maintain them. Some suggest that staff intentionally neglect maintenance so that motorbikes will be auctioned off to staff when they become uneconomical to maintain. There is also evidence that available vehicles are not used effectively, and that they may be cornered by senior staff. Strategies to improve mobility need to include innovative ways to deal with these long-standing challenges.

Inputs for work and infrastructure. The availability of inputs for field staff activities seems to be a major challenge. This is not only clear from the budget figures, it is also reflected in the staff survey. Ninety-five percent of field staff interviewed for the ISSER–IFPRI study disagreed or strongly disagreed with the statement, “Inputs for the work come regularly.” Almost 80 percent indicated that protective clothing is not available. Eighty-eight percent of the MoFA staff interviewed disagreed or strongly disagreed with the statement “MoFA staff in this District Office have enough resources available to carry out their work as required by professional norms.”

Information and communication technologies. The use of cell phones has increased the communication possibilities for MoFA, both for interacting within the organization and with clients. However, many districts still do not have essentials such as copiers and fax machines. Three of the districts had two computers, a printer, and a photocopier. Districts such as T1 that appear to get more project funds are better equipped. However, available computers are often not supported with virus protection and efforts to provide MoFA district offices consistently with internet access have not yet proven successful. This limits the communication possibilities within MoFA, and the ability of district staff to get up-to-date information online.

Organizational Incentives

In addition to the cogent policy framework, several other factors create positive performance incentives for MoFA. Ghana’s poverty reduction strategy, emphasizing agriculture as a source of growth for the country to achieve middle-income status, is one. Political concerns about food security and food self-sufficiency, which have focused additional attention on the performance of the sector, are another. Third,

budgetary processes increasingly involve Parliament, which appears to use a ministry's perceived effectiveness in delivering growth and other benefits to determine budget share. Sector budget support from donors is also contingent on meeting some performance triggers. Finally, further fiscal decentralization, if implemented, can create competition for agricultural funding at the district level, which may generate additional incentives for MoFA to produce tangible benefits in order to be able to compete with other sectors, especially the social sectors, for District Assembly funds.

MoFA is making some efforts to increase accountability of various units in the organization. The annual "performance review" workshops that are held, to which donors and other stakeholders are also invited, are examples of such efforts, but whether these workshops will compensate for processes that need to be routine within the organization is an important question. The presentations made at the performance reviews indicate that the Ministry has taken to heart the development of plans, setting up of targets, and assessing performance in relation to targets.

Earlier reviews of MoFA, such as the 2002 decentralization review, found that staff morale was generally low, especially at district and regional levels. In contrast, this assessment found that staff morale, in spite of the problems discussed above, is not as low as earlier reviews suggest. Two-thirds of district staff say that they are satisfied with their jobs. While salary can act as a disincentive, client recognition can be an important incentive, as almost all interviewees felt recognized by farmers and co-workers as hard workers. Consistent possibilities for job promotion may be another source of job satisfaction. MoFA staff also identify with the mission of the organization at both the field level and middle-level management. However, among managers, there is a widespread feeling of having been left out and denied the opportunity to make a contribution, as discussed above. There is a perception that not much effort is made to reward those who perform better.

The staff survey also aimed to find out what field staff see themselves as being held accountable for. Staff in case study districts perceived that good performance includes "meeting targets and objectives," "carrying out duties to yield good results," and "performing well." When asked what they do to please their supervisors, a third and a fifth of the respondents indicated that they demonstrate their "dedication to work" and commitment to "achieving the set objectives" respectively. One in two interviewed indicated that the most important thing that they can do to keep the supervisor satisfied is to submit reports regularly. While this points to the encouraging finding that a culture of setting targets and reporting numbers has taken root, staff are being held accountable for outputs rather than outcomes related to sector goals. As indicated above, specifying these outcomes at the district level is a task that deserves more attention.

When asked who they feel accountable to, nearly 90 percent of the AEAs and supervisory staff interviewed for the case studies thought that there are people in addition to their immediate supervisor who they need to keep content. As expected, nearly two-thirds of the AEAs identified their director as the person that they are most accountable to, but one in two also suggested that they are accountable to farmers. Nearly 30 percent of the supervisory staff also mentioned the District Assembly and other stakeholders. Asked how they would keep them satisfied, about 30 percent indicated by "submitting reports regularly" and "working effectively." Supervisory staff also emphasized "interaction with them." As for the actors who can sanction them, AEAs felt overwhelmingly accountable to their supervisors in the districts, while district agricultural officers (DAOs) also felt accountable to regional directors and to a lesser extent the District Assembly. District officials seem to have a greater influence on DAOs than District Assembly members have on AEAs at community levels. District directors feel accountable to the entire chain of command, including their Regional Director of Agriculture, Director of Extension, Minister of Agriculture, District Chief Executive, and the District Assembly.

Routine processes that enhance accountability, however, still leave considerable room for improvement. The study could not identify the extent to which individuals are actually assessed routinely. Reporting has become routine due to a deliberate effort by the Ministry and due to the emphasis on monitoring and evaluation, as indicated above. However, the managers reported that there is little immediate feedback on reports so long as they supply the numbers. While reporting is emphasized,

particularly the quantification of various activities, the reports give little indication of the quality of work or the outcomes.

Discussions with staff at various levels suggest that there are mechanisms to punish poor performance. District directors deny allowances to staff who blatantly disregard their duties. The chief director can remove district and regional directors who do not perform well. Staff can be moved to different locations. While the organization may occasionally resort to punishments, the study finds that it could improve its use of instruments to reward good performers. Many suggest that simple acknowledgment of extra effort can be a motivator.

There is also room to improve the accountability of the DADUs for achieving their planned goals. Obviously, there are limits to holding DADUs accountable for production or productivity outcomes, since these also depend on factors outside their control. Still, finding ways to improve the outcome orientation of DADUs would be a promising strategy. The Ministry is already adopting encouraging measures such as annual performance reviews to bring peer pressure on division directors to improve their performance. These can be further strengthened, but orientation to outcomes is a prerequisite to strengthening accountability.

Accountability to elected political leaders is important to ensure that the organization responds to broader societal goals and citizens' needs. This review suggests that MoFA's accountability to the top political leadership, especially the President's Office, is high. The budget processes also introduce accountability to parliamentarians, particularly for the fulfillment of targets in the budget statement. As indicated, accountability to the District Assembly has not yet been established in any formal sense, even though field staff interact with elected District Assembly members. Budget support does bring in some accountability to donors as well. For example, the improved timeliness of reporting noted earlier might be partly a response to a trigger in the Food and Agriculture Budget Support. This accountability could be strengthened by choosing triggers that are outcome oriented.

3. AGRICULTURAL EXPENDITURE REVIEW

Coverage of the Agricultural Expenditure Review

Agriculture is typically defined as comprising crops and livestock, fisheries, forestry, and natural resource management. For reviewing public expenditures, this definition was deemed to be too narrow. Therefore, a broader definition of agriculture, which covers all of these but also includes agricultural research, agricultural extension services and training, agricultural marketing, agricultural inputs (such as seeds, fertilizers, and chemicals), irrigation, and rural infrastructure (such as marketing information systems and postharvest facilities), has been used. This definition is consistent with the guide developed by the Africa Union/New Partnership for Africa's Development for the CAADP initiative (AU/NEPAD 2005).

In addition, expenditures in many different sectors (for example, feeder roads, transport, power, education, and health) can also contribute to agricultural growth. The implication of this definition for Ghana is that the agriculture sector goes beyond MoFA to include several other MDAs, as has been discussed in the previous chapter (Figure 2).

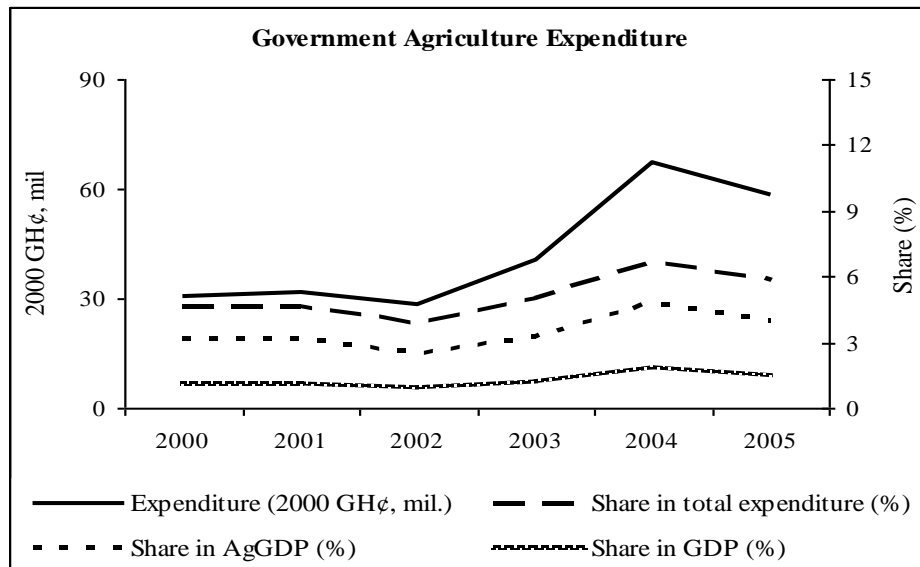
Trends in Sector Expenditures

Government expenditures in the sector, as defined above, have risen steadily by about 9.1 percent per year on average in real terms, increasing from 30.4 million in Ghanaian cedi (GH¢) in 2000 to GH¢ 58.2 in 2005. As Figure 3 shows, government spending on the sector accounted for about 6 percent of total government spending on average over the period 2000–05. In terms of its size relative to the economy, which is a better measure by international standards, spending on the sector accounted for about 4.1 percent of agricultural gross domestic product (AgGDP) and 1.5 percent of GDP.

These shares are considerably higher than those reported in the 2008 *World Development Report* (0.7 percent of AgGDP)(World Bank 2007). The difference may be because the World Bank only counts expenditures by MoFA. In any case, our results show that the share of government spending in total government expenditure or AgGDP is actually higher than reported in the *World Development Report*, when agriculture-related expenditures in other MDAs, such as feeder roads, agricultural education under the National Council for Tertiary Education, food imports and agricultural presidential special initiatives, are accounted for.

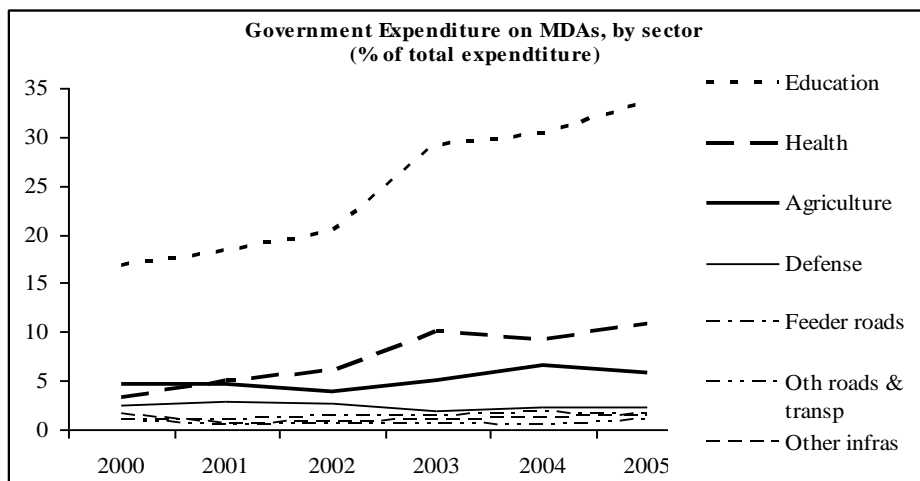
Comparing agriculture to some other sectors, government spending on agriculture ranks third after spending on the education and health sectors, although spending on the education sector, which continues to rise rapidly, far outweighs the others (Figure 4). *Although real expenditures are increasing, the share spent on the agriculture sector has stagnated.* Government spending on feeder roads and other infrastructure (highways and urban roads, communications, works and housing, and ports, harbors, and railways) accounts for only 3.1 percent of government spending and 0.8 percent of GDP, which is only slightly higher than the share spent on defense—2.4 percent of government spending and 0.6 percent of GDP.

Figure 3. Government expenditure on the agricultural sector



Sources: Government Financial Statistics (Office of the Accountant General), Cocoa Board, World Bank 2007.

Figure 4. Government expenditure on agriculture and other sectors (percent)



Sources: Government Financial Statistics (Office of the Accountant General); Ghana Cocoa Board.

The steady increase in real government agriculture expenditure relative to several macroeconomic indicators (Table 3) shows an increasing and steady commitment of the government to investing in the sector.

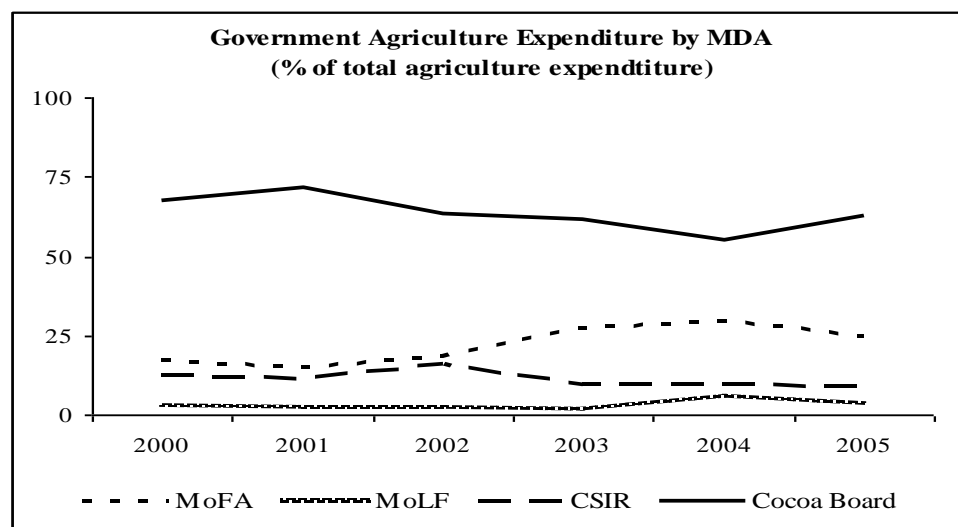
Table 3. Macroeconomic indicators associated with government agriculture expenditure

Indicator	2000	2001	2002	2003	2004	2005
Agriculture expenditure (MoFA, Forestry Department, CSIR, COCOBOD in 2000 GH¢, million	30.4	31.8	28.5	40.8	67.1	58.2
Government agriculture expenditure as a % of total expenditure	4.6	4.7	3.9	5.0	6.7	5.8
Government agriculture expenditure as a % of discretionary expenditure	7.0	10.1	7.1	7.8	9.6	7.8
Government agriculture expenditure as a % of AgGDP	3.2	3.2	2.5	3.3	4.8	4.0
Government agriculture expenditure as a % of total GDP	1.1	1.1	0.9	1.2	1.8	1.5
Agriculture budget performance (ratio of expenditure to budget)	--	0.7	0.9	1.3	2.4	1.6
Real expenditure per capita, agricultural population (2000 GH¢)	2.7	2.8	2.5	3.5	5.6	4.8

Sources: Government Financial Statistics (Office of the Accountant General); Cocoa Board; World Bank 2007.

MoFA's Share in Public Agricultural Expenditure

Looking at spending across MDAs in the sector, MoFA accounted for less than 25 percent of the total amount spent by the government on the sector, with the bulk of expenditures being accounted for by COCOBOD, that is, between 55 and 70 percent during the 2001–05 period (Figure 5). The agricultural sector expenditure review carried out in 1999 showed MoFA as the highest spender of government funds allocated to the sector, accounting for 48 to 57 percent of total government expenditure on the sector (MoFA 1999). Thus, there has been a shift away from MoFA to other MDAs in the role of public agencies in the development of the sector.

Figure 5. Government expenditure on agriculture by ministries, departments, and agencies (% of total agricultural expenditure)

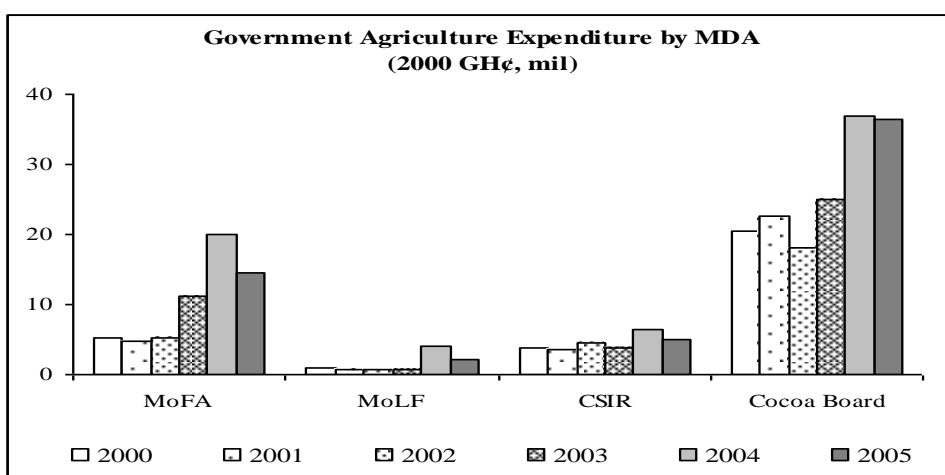
Source: Government Financial Statistics (Office of the Accountant General); Cocoa Board.

Notes: MoFA is the Ministry of Food and Agriculture, MoLF is the Ministry of Land and Forests, CSIR is the Council for Scientific and Agricultural Research.

Figure 56 shows that the steady rise in government spending on the sector is mostly reflected by growth in MoFA and COCOBOD expenditures, especially between 2001 and 2005. There was no substantial growth in real government expenditure via the Forestry Department of the Ministry of Lands

and Forestry and CSIR, with the exception of a spike in 2004 spending by the Forestry Department, which seems to have settled in 2005. Research and development at CSIR accounted for about 10 percent of total government agriculture spending, which is about 0.6, percent of total government expenditure, 0.4 percent of AgGDP, and less than 0.2 percent of GDP. Without accounting for research on cocoa, data that we have not been able to obtain and that would raise the share of government spending on research, it is premature to compare these percentages to any international standards.⁶

Figure 6. Real government agriculture expenditure by ministries, departments, and agencies (2000 GH¢, million)



Source: Government Financial Statistics (Office of the Accountant General); Cocoa Board.

Notes: MoFA is the Ministry of Food and Agriculture, MoLF is the Ministry of Land and Forests, CSIR is the Council for Scientific and Agricultural Research.

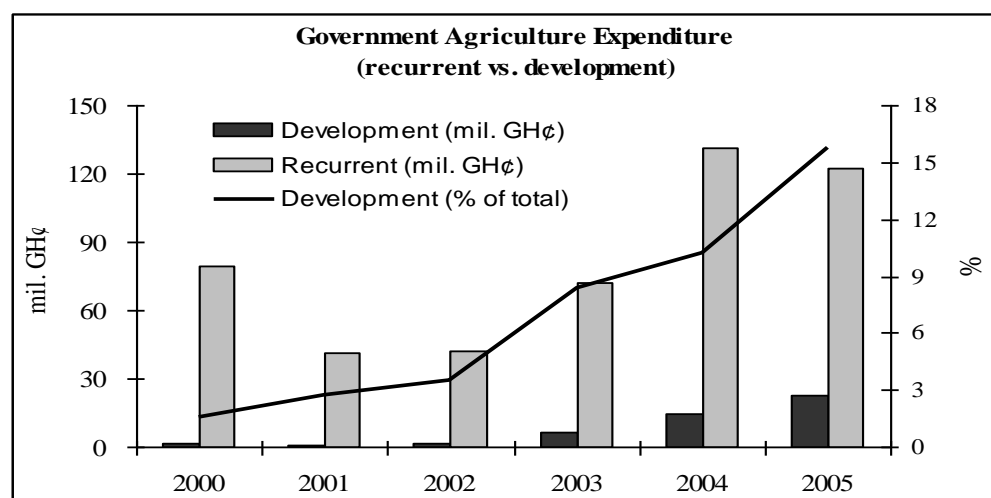
Comparison of Development to Recurrent Expenditures

The bulk of the government's expenditure on the sector went into recurrent activities, but the development expenditure share has been rising rapidly over the years, albeit from a very low base in 2000 of about 1.5 percent (Figure 7). This reflects the high level of donor support for development activities in the sector, but it also raises questions on the sustainability of donor support to the sector and concern about the government's capacity to step up to the plate in the event of withdrawal of donor funds. It also raises another concern about how the capital investments funded by donors will be maintained or replaced when donor development projects come to an end. Actually, the large increase in the amount and share of development expenditure by the government in the sector is due mostly to the channeling of resources under the donor budget support program through the government's Heavily Indebted Poor Country (HIPC) and poverty funds, which started in 2002. Thus, donors still maintain some level of influence on how their funds are spent even if channeled through the government's financial system. In 2003, for example, about 35 percent of the government's total budget was made up of various multilateral and bilateral grants and loans from donors (Quartey 2005). However, some aid agencies implement development activities directly in partnership with the private sector and nongovernmental organizations. The amount of donor spending through these arrangements or outside the government financial system, which is believed to be substantial, was not available. The U. S. Agency for International Development (USAID), for example, which is one of the aid agencies that does not provide budgetary support, is the third largest bilateral donor (United Nations Development Programme (UNDP) cited in USAID 2008). Between 2004 and 2006, USAID spent about US\$7.3 million per year on its Increase Competitiveness of

⁶ The expenditure data for COCOBOD is total, including expenditures on marketing, which should be excluded from this review. However, we have not been able to obtain the disaggregated data to do this.

Private Sector program, under its Economic Growth, Agriculture, and Trade Strategic Objective (USAID 2008). This will be explored further when we look at how these HIPC and poverty funds are expended.

Figure 7. Government development and recurrent agriculture expenditure

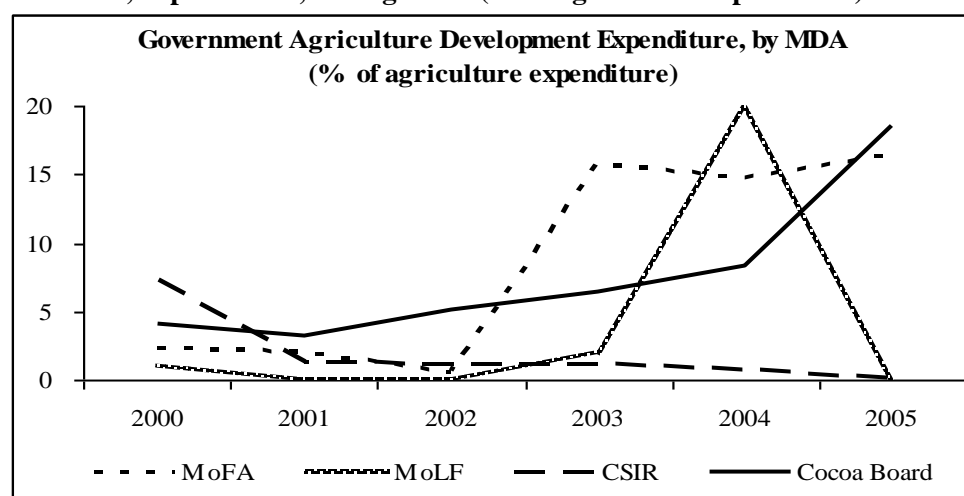


Source: Government Financial Statistics, supplied by the Office of the Accountant General; Cocoa Board.

Notes: MoFA is the Ministry of Food and Agriculture, MoLF is the Ministry of Land and Forests, CSIR is the Council for Scientific and Agricultural Research.

The pattern of development versus recurrent expenditure observed at the sector level is also reflected at the MDA level, although the balance between the two types of expenditure appears more erratic at this level or of more concern for some MDAs, especially the Forestry Department and CSIR (Figure 8). For example, the government's development expenditure share in CSIR fell from 7.5 percent in 2000 to less than 1.5 percent in subsequent years. The Forestry Department's share was zero or less than 1 percent, except for the unusual spike in 2004. The very low expenditure on agricultural research needs to be considered as a major constraint with regard to reaching sector goals.

Figure 8. Government agriculture development expenditure as percent of total expenditures in ministries, departments, and agencies (% of agriculture expenditure)



Source: Government Financial Statistics (Office of the Accountant General); Cocoa Board

Notes: MoFA is the Ministry of Food and Agriculture, MoLF is the Ministry of Land and Forests, CSIR is the Council for Scientific and Agricultural Research.

Funds are divided into four categories, also referred to as items: personal emoluments (Item 1), administration (Item 2), services (Item 3), and investment (Item 4). Investment funds are associated with capital projects, such as construction and procurement of equipment. Among the four components, the actual flow of funds is particularly disconcerting. The percentage of investment funds actually received in 2004 and 2005 was below 50 percent of the budgeted amount. The nonreceipt of investment funds is particularly severe at the district level. A major share of the investment funds are used at the headquarters and regional directorates. The amounts that the districts actually receive are very small.

Table 4 presents the budget of the East Akim DADU, where a case study was conducted. As the table shows, this district office did not receive any investment funds directly from the government in 2007, although it had initially allocated about 26 percent of its total budget toward investments.

Table 4. 2007 Budget of East Akim DADU (in Ghana cedis)

	Personnel	Administration	Services	Investment
Budget	113,045.5	6,527.6	293,620.0	146,810.0
Revised	n.a.	n.a.	70,676.0	0.0
Received	192,068.1	2,757.0	24,027.2	0.0
Utilized	192,068.1	2,757.0	24,027.2	0.0

Source: East Akim DADU.

Notes: n.a. is not available

The nonreceipt of investment funds implies that the DADU cannot undertake independent capital projects. The district case studies indicate that most of the districts do not have the needed complementary inputs to enhance their work because they budget for equipment under the investment component, and although such budgets are approved, they eventually do not receive funding for independent implementation. This leads to an unfavorable ratio of resources spent on services and investment as compared with personnel and administration. In the case of East Akim (Table 4), this ratio, which is an indicator of the capacity of an organization to use its human resources to perform services, was only 12 percent.

The concentration of investment funds at the headquarters suggests that the headquarters and their directorates are implementing investment activities on behalf of the DADUs. For example, according to a performance review, the Greater Accra RADU's performance for 2006 included the following investment activities: completion of an office block for Greater Accra West DADU, renovation of RADU offices, provision of furniture for RADU and DADU offices and the two livestock stations, and rehabilitation of feeder roads in two communities in Greater Accra RADU.

The reasons for this limited financial decentralization are interrelated: the relatively limited procurement capacity of the DADUs and RADUs and the scope for taking advantage of bulk purchases at higher levels. Nevertheless, the DADUs lack of information about investment procurement activities may reflect the limited extent to which financial decentralization has taken place. This will be discussed further in a later section.

The Ministry's inability to make use of available investment funds continues to be a challenge. In 2006, MoFA used less than 40 percent of the available investment funds. At the same time, the district units complained that they did not receive the funds they requested for investments. While it is true that investment funds may not be available for the activities that the districts want to use them for, the case studies suggest that many districts may not even know the proper procedures for drawing investment funds. They also have little understanding of how much is spent in their districts, since procurement is often made at the regional or national levels. Disbursement practices of donors, apart from lengthy and inefficient processes in the Ministry, are often cited as the reason for their inability to make use of investment funds.

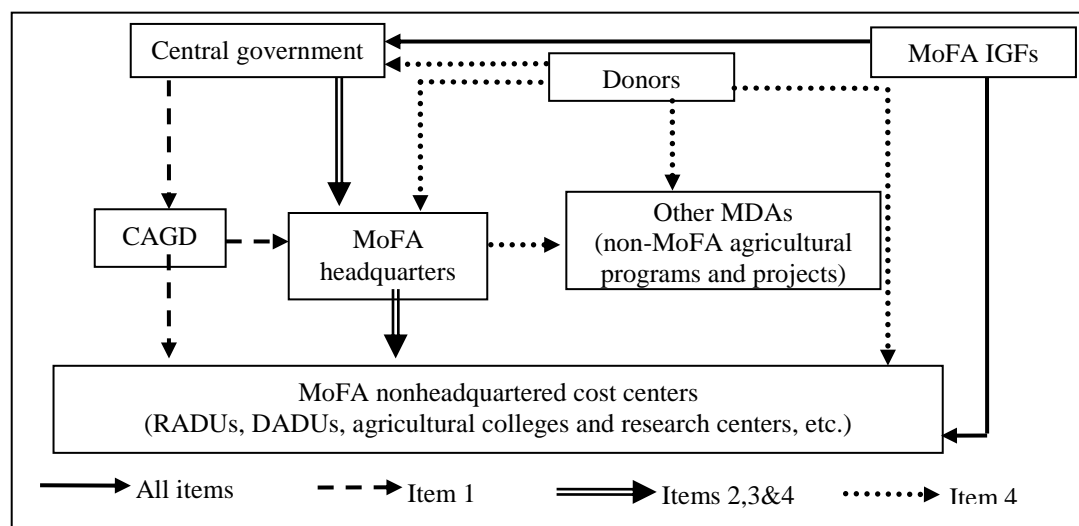
Sources of Funds

It is important to analyze the sources and flow of funds at MoFA to shed further light on the challenges faced as a result of the precarious balance between development and recurrent expenditure in the sector, as well as the functional and spatial allocation of budget resources, in order to meet the FASDEP objectives.

The two main sources of funding for MoFA are the Government of Ghana and donors. Internally generated funds (IGFs) constitute another, though minor, source of funding for the Ministry. However, only a few of the Ministry's cost centers are allowed to retain a portion of their IGF, unlike the Ministry of Fisheries, for example, which retains all of its IGFs. In 2006, MoFA cost centers retained only 5.4 percent of their IGFs, a figure that was expected to double in 2007. They are required by law to lodge the remainder in the consolidated fund for general budget financing.

Personal emoluments and administrative expenditures are funded almost entirely by the Government of Ghana through the Comptroller and Accountant General's Department (CAGD). The CAGD pays salaries directly to all of the Ministry's workers but disburses administrative expenditures for both headquarters and cost centers through MoFA (Figure 9). MoFA then releases funds for administration to cost centers upon their request or undertakes particular administrative expenditures on their behalf. For services and investments, Ghana government funds are released quarterly to MoFA's financial comptroller, which later undertakes the onward disbursements to cost centers.

Figure 9. Flow of funds in the Ministry of Food and Agriculture (MoFA)



Source: Authors.

Notes: Item 1 is personal emoluments, Item 2 is administration, Item 3 is services, and Item 4 is investment.

Donor financing for the sector is both direct and indirect. Direct financing goes to MoFA- and non-MoFA-managed projects, while indirect financing takes the form of general “budget support” to the central government through the Ministry of Finance and Economic Planning (MoFEP). Donor funding to the agriculture sector that is managed outside MoFA is quite substantial. In 2008, for example, about 52 percent of donor funding was pledged to non-MoFA MDAs (Table 5). Also, because budget support constitutes part of a pool of fungible financial resources for the central government, it is hard to measure what proportion of it goes to a particular sector – in this case, agriculture.

Table 5. Donor pledges to the agricultural sector in 2008 (GH¢ million)

	Donor Pledges	%
MoFA managed funds	55.55	47.5
Non-MoFA managed funds	61.33	52.5
Total flows to agriculture	116.88	100

Source: MoFA 2008a.

However, as Table 6 shows, considering the total multidonor budget support (MDBS) to all sectorwide initiatives in the country, the amount spent on agriculture increased steadily over time, rising from US\$92.5 million (or 10.5 percent of the total amount) in 2003 to US\$227.5 million (or 18.7 percent) in 2008, which is a good sign for sustainable development of the sector. This was achieved following a crisis in the macroeconomic environment and a subsequent deterioration in the central government's financial position, including a large domestic and external debt overhang in 2000, which led to the government's accession to the HIPC debt relief initiative in 2001. This gain provided some fiscal respite for the government and subsequently an increase in overall donor resources (Table 5).

Table 6. Donor resources to Ghana under multidonor budgetary support (MDBS) (US\$ millions)

	Actual disbursements			Estimated/projected disbursements		
	2003	2004	2005	2006	2007	2008
Total disbursements	883.1	987.0	1,096.3	1,296.4	1,242.0	1,218.8
Balance of payment to Bank of Ghana (IMF)	73.8	39.0	78.0	76.8	--	--
Budget (MDBS)	264.3	310.9	290.6	331.5	290.3	266.5
Credits	129.6	105.6	171.2	184.5	131.9	164.4
Grants	134.7	205.3	119.4	147.1	158.4	102.2
Sectorwide investment (MDBS)	544.9	637.1	727.7	888.1	951.7	952.3
Credits	172.8	224.3	240.9	315.1	334.5	322.6
Grants	372.1	412.7	486.8	573.0	617.2	629.6
<i>of which</i>						
Agriculture	92.5	103.1	94.0	180.8	202.9	227.5
Agriculture share (%)	10.5	10.4	8.6	13.9	16.3	18.7

Source: World Bank 2006.

Notes: IMF is the International Monetary Fund and MDBS is Multi-Donor Budget Support.

The contribution of donors has varied, however. In addition, different mechanisms have been used by different donors, and, as seen earlier, donors have tied their funding to different development activities. Under the first phase of MDBS, for example, the World Bank accounted for the largest share of resources going to the broader agricultural sector, 24.3 percent on average. Significantly, the two international organizations most closely associated with agriculture, the Food and Agriculture Organization (FAO) of the United Nations and the International Fund for Agricultural Development (IFAD), accounted for substantially smaller shares. By the end of the second phase of MDBS the United States went ahead of the World Bank to become the largest contributor to the agricultural sector in Ghana, not accounting for government budget support. The United States accounted for the largest share of donor inflows by source for direct investments in the sector. At the bilateral level, the contribution of the United States increased from 10.9 percent in 2003 to 15.7 percent in 2006. However, unlike other donors, who participate in direct government budget support, U.S. funds are meant for sectorwide programs only.

The proportion of the government's total expenditure that is financed from external grants has increased substantially over time, rising from about 8 percent in 1999 to about 24 percent in 2006 (Table 7). Although there is relatively more variability in external grants, compared with the government's own source from tax revenues, this again highlights concerns about relying on external funding for sustainable development of the economy in general.

Table 7. Trends in Ghana revenues (GH¢ million, 2006 prices)

Source of revenue	1999	2000	2001	2002	2003	2004	2005	2006
Tax								
GH¢ million	1,085	1,239	1,384	1,572	1,942	2,243	2,250	2,419
% change		14.1	11.8	13.6	23.5	15.5	0.3	7.5
Nontax								
GH¢ million	108.9	111.1	73.4	46.4	52.7	146.5	140.7	71.1
% change		2.0	-33.9	-36.8	13.6	178.0	-4.0	-49.5
Foreign grants								
GH¢ million	106	161	332	280	453	637	570	770
% change		51.4	106.2	-15.6	61.5	40.7	-10.5	35.1
Total								
GH¢ million	1,300.5	1,511.0	1,789.5	1,898.5	2,447.4	3,026.6	2,960.6	3,259.5
% change		16.2	18.4	6.1	28.9	23.7	-2.2	10.1

Data source: Ministry of Finance and Economic Planning (MOFEP) budget statements 1999–2006.

Budget Allocations

The team was unable to obtain disaggregated data for the entire amount spent by the government on the agricultural sector. Therefore, we present functional breakdowns for the following expenditures: (1) HIPC and poverty reduction funds; (2) expenditures of CSIR; (3) the Agricultural Sector Support Investment Project (AgSSIP), a sectorwide investment program; and (4) MoFA.

HIPC. The HIPC and poverty-reduction amounts spent by these MDAs represent 36.2, 56.5, and 38.4 percent of the total expenditures in 2003, 2004, and 2005, respectively. The bulk of these resources was spent directly at the regional and district levels, again reflecting the highly deconcentrated nature of spending (Table 8).

Table 8. HIPC/poverty funds spent on the agriculture sector, by functional unit, subsector, and function (2000 GH¢ thousand)

MDA/Cost Center	2003		2004		2005	
	GH¢	%	GH¢	%	GH¢	%
MoFA administration (VIP)	1,212.23	21.30	8,919.10	52.23	1,225.83	14.67
MoFA RADUs and DADUs	3,661.62	64.33	4,027.29	23.58	4,202.11	50.29
AgSSIP	273.16	4.80	24.64	0.14	330.95	3.96
Irrigation	164.42	2.89	521.88	3.06	800.46	9.58
Crops	319.35	5.61	385.76	2.26	450.07	5.39
Forestry	25.55	0.45	3,156.22	18.48	1,337.35	16.00
Livestock	8.55	0.15	12.02	0.07	0.33	0.00
Fishery	11.94	0.21	12.58	0.07	8.69	0.00
Extension	11.70	0.21	11.12	0.07	0.40	0.00
Gender (WIAD)	3.00	0.05	6.71	0.04	0.19	0.00
Total	5,691.52	100.00	17,077.32	100.00	8,356.38	100.00

Source: Government Financial Statistics (Office of the Accountant General)

Notes: The total amounts of Heavily Indebted Poor Country (HIPC)/poverty funds spent in 2003, 2004, and 2005 represent 36.2, 56.5, and 38.4 percent, respectively, of the total government spending under MoFA, the Forestry Department, and the Council for Scientific and Industrial Research (CSIR). Irrigation includes funding for the Ghana Irrigation Development Authority and the Irrigation Company of Upper Region; crops include funding for the Grains and Legumes Development Board and the Crop Services Directorate; livestock includes funding for the National Livestock Project and Animal Production Directorate. Research (CSIR) did not receive any HIPC/poverty funds. WIAD is the Women in Agricultural Development program.

This was followed by spending on forestry; the general administration of MoFA; irrigation (the Ghana Irrigation Development Authority [GIDA] and the Irrigation Company of Upper Region

[ICOUR]); and crop development (the Grains and Legumes Development Board and the Crops Services Directorate). The spending on AgSSIP (a subset of total expenditures) reflects the Ministry's matching funds requirement under the project implementation agreement with its development partners. Fisheries and livestock development and gender issues attracted the smallest amounts.

CSIR. We were able to obtain disaggregated expenditures for various research institutions for 2006 and 2007. Table 9 shows an equal expenditure distribution across most of the institutes, with roots and tubers, plant and genetic resources, and science and technology policy and information attracting the least spending.

Table 9. Government spending on agriculture research, by research institute and center (% of total research spending releases in 2006 and 2007)

Institutes and programs	%
Secretariat	11
Crop Research Institute	8
Animal Research Institute	6
Soil Research Center	5
Soil Research Institute	4
Building and Roads Research Institute	8
Food Research Institute	5
Water Research Institute	8
Institute of Industrial Research	5
Institute for Science and Technological Information	3
Oil Palm Research Institute	8
Savannah Agricultural Research Institute	8
Ghana Grains Development Project	9
Science and Technology Policy Research Institute	1
Forestry Research Institute of Ghana	7
Plant Genetic Resources Research Institute	3
Root And Tuber Crops Projects	2
International Centre for Materials Science and Technology	0
Total	100

Source: Council for Scientific and Agricultural Research Secretariat.

AgSSIP. The sectorwide investment program, AgSSIP, is a multidonor effort including the World Bank which was the largest contributor (54 percent of the total \$123.7 million); the African Development Bank; the Canadian International Development Agency; the Danish International Development Agency; the Department for International Development ; the European Union ; and the International Fund for Agricultural Development . The program activities include

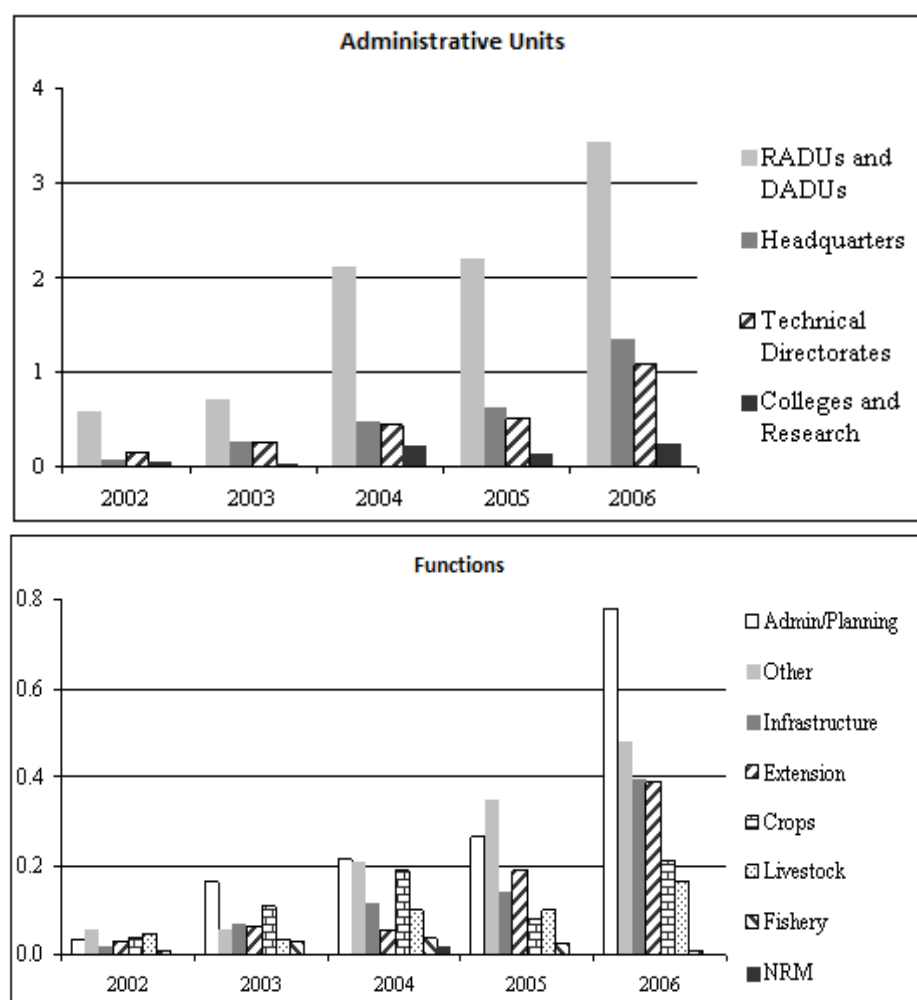
- Reforming and strengthening agricultural technology generation and diffusion (\$78 million),
- Institutional reform and strengthening of MoFA (\$29.5 million),
- Development of farmer-based organizations (FBOs)(\$9.9 million), and
- Strengthening of agricultural education and training (\$5.7 million).

As the name implies, the program involves many other MDAs in collaboration with MoFA. These include the Ministry of Local Government, Rural Development, and Environment and District Assemblies staff under the decentralization activities; CSIR and four national universities (University of Ghana, University of Cape Coast, Kwame Nkrumah University of Science and Technology, University College of Education, Winneba for the research component; the District Assemblies, farmer-based and nongovernmental organizations and the private sector for the extension component; Department of

Cooperatives, the Ghana Cooperative Council, and the Ministries of Finance, Employment, and Social Welfare for the FBO component; and the Ministry of Education and the agricultural faculties of the four universities mentioned for the education component. The funds can be used for the service and investment components but not for personal emoluments and administration.

AgSSIP shows an expenditure pattern similar to MoFA's in terms of allocation to functional units, although the relative amount spent on research is much lower (Figure 10).⁷ In terms of provision of services (besides administration, planning, and others), infrastructure (including irrigation and engineering services) and extension attracted the bulk of the funds, followed by crops and livestock development. The amount spent on natural resource management was relatively insignificant, raising concern about the sustainability of potential productivity increases that may occur, if addressed under other development projects of the government.

Figure 10. AgSSIP expenditures by administrative units and functions (GH¢ million)

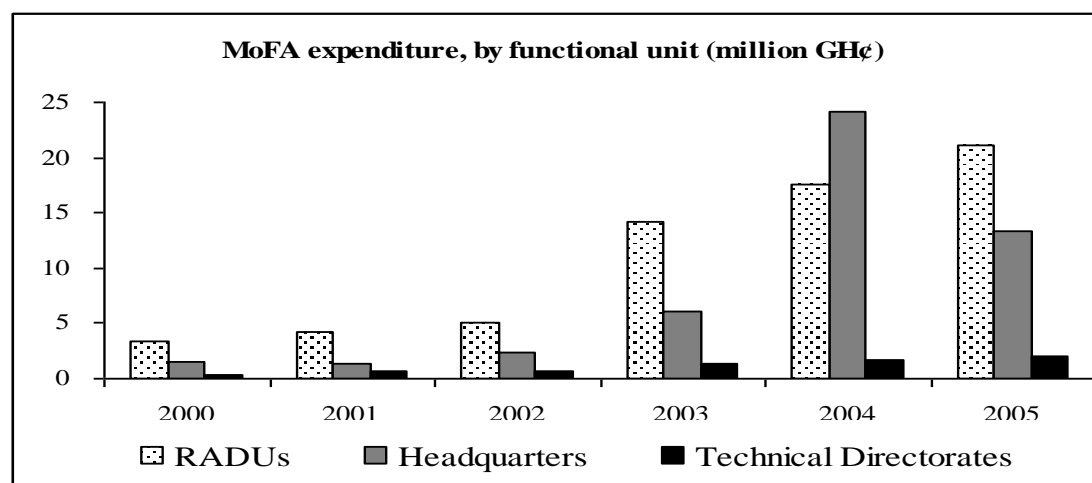


Source: MoFA.

⁷ AgSSIP, as the name implies, extends investment support to other ministries outside of MoFA, including MoLF, MoF, CSIR, COCOBOD, the Ministry of Manpower, Youth, and Employment, and the Ministry of Women and Children Affairs.

MoFA. Figure 11 shows that the bulk of MoFA's expenditure was undertaken directly at the regional and district levels, reflecting highly deconcentrated spending. However, the shares spent at the regional and district levels have fallen over time from 65 to 62 to 58 percent in 2000, 2002, and 2005, respectively. Spending at the level of the technical directorates was much lower than the amount spent at the headquarters.

Figure 11. MoFA government expenditure by functional unit (GH¢ million)



Source: Government Financial Statistics (Office of the Accountant General).

Note: RADUs are regional agricultural development units.

Spatial Allocation

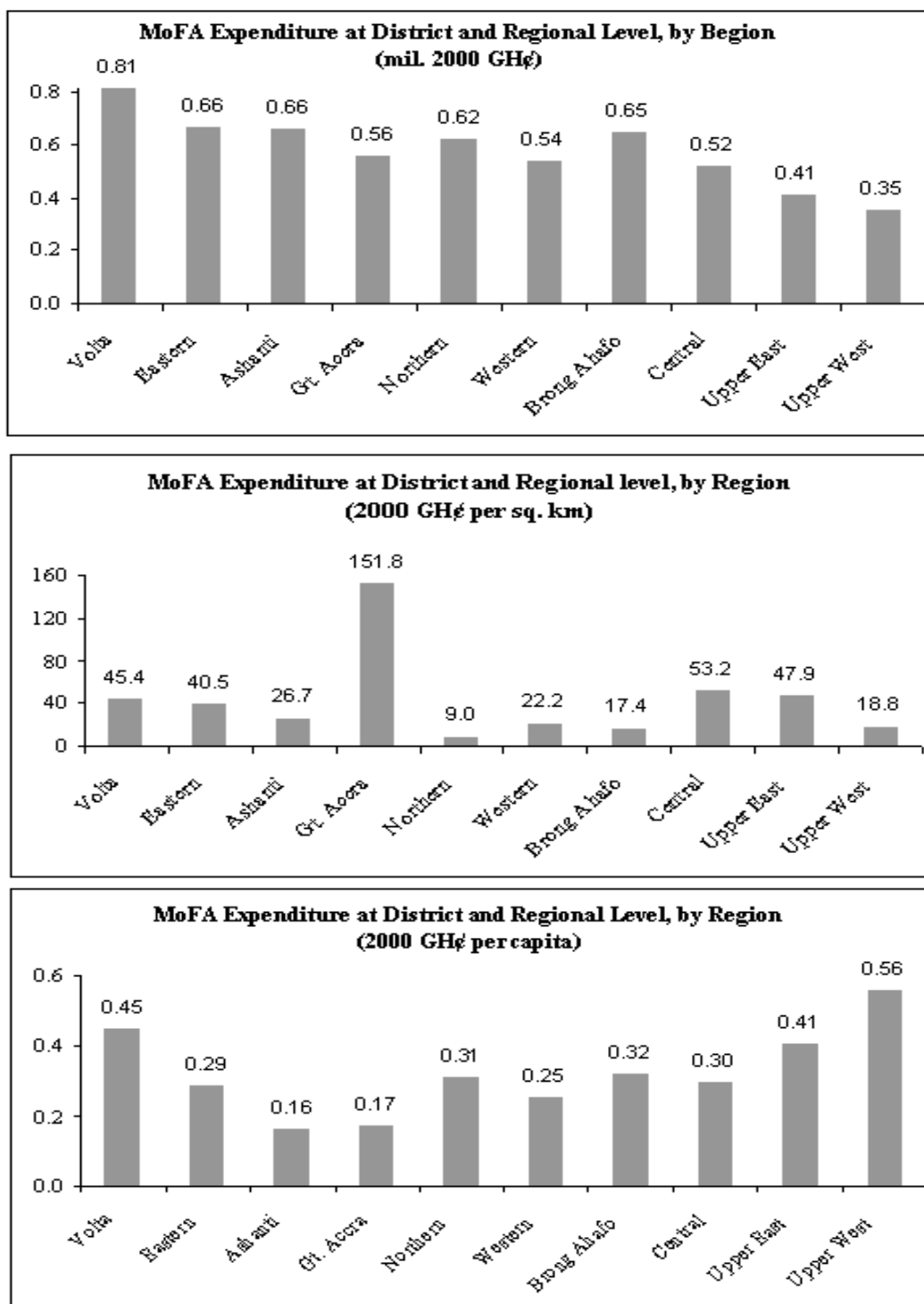
Spatial disaggregation of expenditures is very important, since the achievement of rapid economic growth and poverty reduction at the national level does not translate into equivalent success throughout the country, suggesting that targeting is important for achieving widespread success. Therefore, analysis of spatially disaggregated data is critical and presents an opportunity to track progress at a level that is often comparable to the scope of development projects, which are the manifestation of implementation of strategies. To examine spatial disaggregation of government spending on the sector, we use MoFA expenditures at the RADU and DADU levels, as these are the only spatially disaggregated government expenditure data that we could obtain. Regarding the District Assembly Common Fund, local governments spent virtually all their resources on the nonagriculture sector. Although located in particular regions or districts, spending by the agricultural colleges, farm institutes, and research institutes were not included in this analysis, since the mandate of such agencies cuts across district or regional administrative boundaries. Later, in this section, we will also look at a similar disaggregation related to AgSSIP, which is treated as a special case,⁸ noting that most expenditures under AgSSIP are also covered here or under the other MDAs or both.

Figure 12 shows that there was substantial variation in MoFA expenditure across the 10 regions during 2000–05. Looking at the average annual amount spent per region (Figure 12, top panel), the Volta region attracted the largest share (14 percent), followed by the Brong-Ahafo, Ashanti, Northern, and Eastern regions, which received 11 percent each.

The Greater Accra, Western, and Central regions received 9 to 10 percent each, while the Upper West and Upper East regions attracted the smallest shares, 6 and 7 percent, respectively. When the land area or population of the region is taken into account, the picture is totally different (Figure 12, middle and bottom panels).

⁸ AgSSIP expenditures accounted for less than 4 percent of the government's total agriculture expenditure analyzed here.

Figure 12. MoFA government expenditure in regions: total spending per square kilometer and per capita, 2000

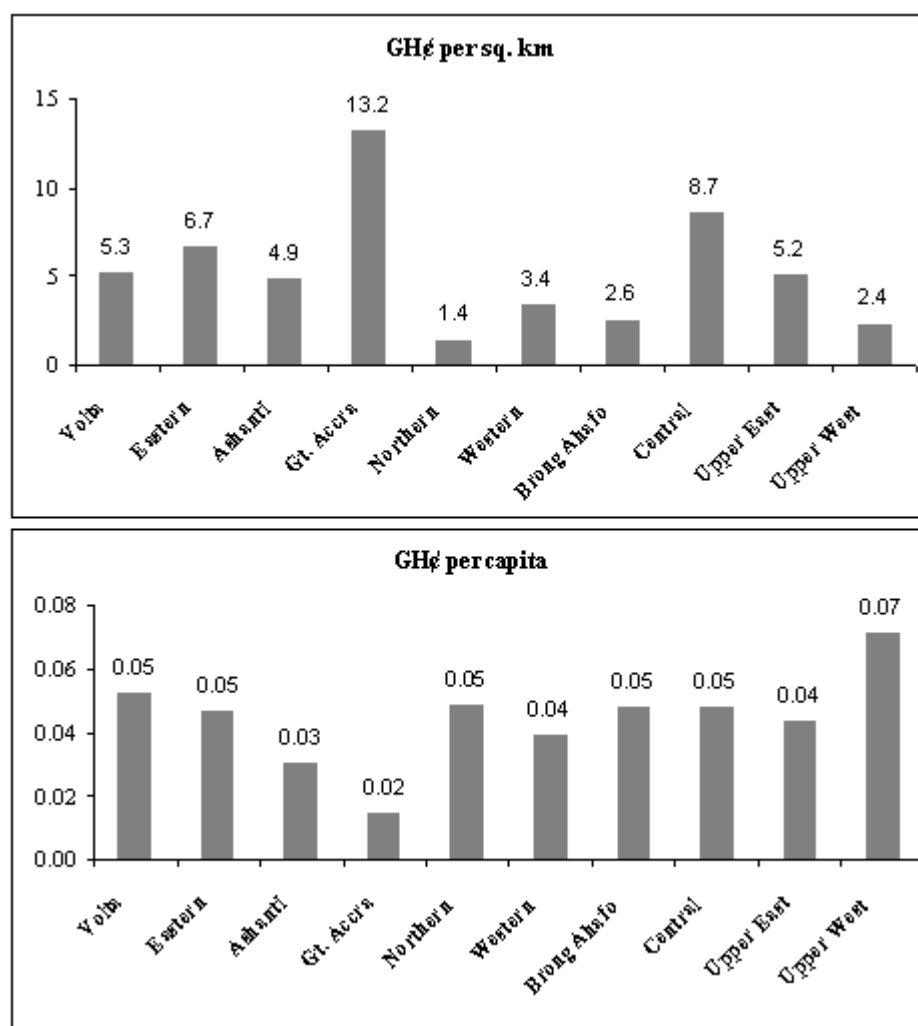


Source: Government Financial Statistics (Office of the Accountant General); Ghana Statistical Service

For example, the average annual amount spent per unit area was highest in the Greater Accra region (GH¢ 151.8 per square kilometer)—three times higher than the amount spent in the next tier of regions, Central, Upper East, Volta, and Eastern. The Northern region attracted the least amount (GH¢ 9 per square kilometer). In terms of expenditure per capita, however, the Upper West, Volta, and Upper East regions were the top spenders, with GH¢ 0.56, 0.45, and 0.41 per capita, respectively. Here, the Ashanti and Greater Accra regions were the smallest spenders at GH¢ 0.16 and GH¢ 0.17 per capita, respectively. The patterns of distribution of expenditures by different indicators vary because of differences in population density and household size and any differences in allocations on the basis of per capita production in different regions.

Looking at AgSSIP expenditures across geographical space, there was substantial variation in expenditure across the 10 regions (Figure 13), as in the case of MoFA. The average annual amount spent per unit area was highest in the Greater Accra region (GH¢ 13.2 per square kilometer), followed by the Central (GH¢ 8.7), Eastern (GH¢ 6.7), and Upper East (GH¢ 5.2) regions, while the Northern, Upper West, and Brong-Ahafo accounted for the least expenditures, with GH¢ 1.4, 2.4, and 2.6 per square kilometer, respectively. In terms of per capita distribution, however, the Upper West region was in front of the pack, with GH¢ 0.07 per capita, while the Greater Accra region was at the bottom with GH¢ 0.02 per capita.

Figure 13. AgSSIP expenditures in regions and districts



Source: MoFA.

Illustrative District Expenditures

Expenditures in 2006 in the four case study districts ranged from GH¢114,481 in S1 to GH¢147,032 in District T1 (Table 10). Nearly 80 percent or more of this amount was spent on personal emoluments. The expenditures on administration averaged about GH¢3,000. None of the four districts reported any expenditure on Item 4, investments. With the number of farming households ranging from 12,650 in District S1 to 57,216 in District F1, the total expenditures in terms of the amount spent per household ranged from GH¢ 2.22 in F1 to GH¢ 9.05 in District S1; the expenditures on services alone per farming households, however, were much lower and ranged from GH¢ 0.42 in District F1 to GH¢ 1.49 in District S1. Note that these unit values only reflect the amount spent at the district level, without accounting for the relevant expenditures at the regional, technical directorate, and headquarter levels. This is dealt with later on when we look at the efficiency and effectiveness of spending.

Table 10. Actual expenditures in case study district agricultural development units (DADUs) in 2006

Districts	District T1		District S1		District F1		District C1	
	GH¢	%	GH¢	%	GH¢	%	GH¢	%
Personal emoluments	125,299	85	92,663	81	99,539	78	--	--
Administration	3,843	3	2,914	3	3,788	3	3,158	14
Service	17,890	12	18,905	17	23,805	19	8,391	36
Total	147,032	100	114,482	100	127,132	100	11,549	50

Source: Data collected by authors in DADUs.

Total expenditure per staff member in district offices in the districts were around GH¢ 4,000 (District T1, GH¢ 4,201; District S1, GH¢ 4,240; and District F1, GH¢ 4,708). This indicates that the expenditures are related more to number of staff than the area or the households to be covered or the services to be provided. Partial data available for two districts suggest that real expenditures have gone up, but the bulk of them were absorbed by increases in personal emoluments, which were in some cases associated with a decline in administration and service expenditures.

The districts use most of the service funds for travel and transport. But there are significant differences between districts (Table 11). In a district such as T1, where a number of projects were implemented, the expenditures were much more balanced.

Table 11. Expenditures on services in case-study district agricultural development units (DADUs) in 2006

Districts	District T1		District S1		District F1		District C1	
	GH¢	%	GH¢	%	GH¢	%	GH¢	%
Training and conferences	3,963	22	331	2	846	4	1,216	14
Travel and transport	9,878	55	15,319	81	19,523	82	--	--
Rent of plant and equipment	--	--	--	--	--	--	30	0
Printing and publications	60	0	--	--	505	2	159	2
Materials and consumables	2,851	16	2,900	15	2,931	12	5,420	65
Others	1,138	6	354	2	--	--	1,566	19
Total	17,890	100	18,905	100	23,805	100	8,391	100

Source: Data collected by authors in DADUs.

Note: Services accounted for 12–19 percent of total expenditures (see Table 910).

Financial Management: Budget Processes

The budget process for all MDAs is guided by the central government's Medium-Term Expenditure Framework (MTEF), following a budget cycle from January to December, with the exception of the COCOBOD, which is an autonomous state agency with its own budget cycle from October to September. The MTEF, which was introduced in 1999, is a major component of the government's Public Financial Management Reform Programme. The overall goal of MTEF is to help "correct observed weaknesses in the preparation and execution of the national budget"... and to address "the budgetary implications of the capital budget on recurrent expenditure."⁹ In practice, MTEF is intended to accomplish the following:

- Link budget expenditures more closely to national priorities through a national strategic planning process;
- Integrate aid-finance programs and policies into mainstream sector resource allocation processes;
- Elaborate on three-year sector expenditure proposals, based on anticipated resource availability; and
- Develop an activity- or performance-based budget system that enhances the ability of government to monitor expenditure efficiency and effectiveness by linking expenditure directly with outputs.

In preparing their budgets, MDAs are expected to develop a mission statement (situated within a sector strategic plan), outlining sector aims, objectives, outputs, and activities, based on the government's development framework, the Growth and Poverty Reduction Strategy (GPRS-II). These objectives and associated outputs are then arranged in order of priority by each MDA for approval by Parliament.

MTEF in Practice at MoFA

This section focuses on the budgeting process and the challenges it presents to MoFA, on the assumption that the Ministry and its related departments and agencies are largely representative of others within the national government and in the sector. Budget preparation for MoFA occurs in February and March of every year. In February, the Ministry undertakes its annual review of sector performance, looking at financial and program targets and performance. The ensuing report is then reviewed by the various heads of the Ministry and used as the basis for preparation of the Ministry's annual work plan, which in turn is based on FASDEP.

During April and May, the annual work plan (as well as the guidelines for the preparation of the budget estimates released by MoFEP), is disseminated to all the cost centers, including the RADUs and DADUs, to guide them in the preparation of their own annual work plans and budgets. Because these centers are expected to prepare their budgets according to their established needs and in line with the priorities of the government's GPRS, they are not provided with financial ceilings at this stage; this is done later in the process.

The cost centers are expected to submit their plans and budgets to MoFA headquarters in June or July. By that time the Ministry will have established the ceilings for the various cost centers. MoFA then uses customized software to capture the data from the cost centers, which number about 240. On the basis of MoFEP's financial ceilings, MoFA then adjusts (invariably downward) the plans and budgets submitted by the cost centers in line with the Ministry's stipulated priorities. The cost centers are then asked to revise their plans and budgets in accordance with the new ceilings proposed by MoFEP and to resubmit them to MoFA.

Following revision and resubmission of budgets by the cost centers, MoFA prepares a Ministry-wide draft budget for onward submission to MOFEP, which incorporates it into the national government's annual budget and policy statement. This is presented to Parliament in November—one month before the end of the fiscal year. As part of the budget hearings that follow in Parliament, representatives of MoFA

⁹ Government of Ghana, Budget Statement, 1999, paragraph 4.

later appear before the Parliamentary Sub-committee on Food and Agriculture and Cocoa Affairs to defend the budget and ask for its approval.

MTEF in Practice at the Local Level

At the local government (district) level, the budget process starts with the explicit statement of the overall and associated objectives of agricultural policy (for example, the attainment of food security and reduced variability in farm incomes), followed by the completion of Form 1 (the Planning Form), which establishes output details based on policy and, ideally, the stated needs of the intended beneficiaries, such as farmers. At this planning stage, a DADU may state, for example, that the production of staple crops, such as maize and plantain, is to be increased by a certain percentage over a given period—usually three years, in accordance with the medium-term orientation of MTEF. The output is then ranked in order of priority (again according to policy-based criteria). The number of years required to attain the output is also spelled out alongside the priority ranking of each output.

Once this is completed, a costing exercise for the personnel required (Form 2), administration (Form 3), and activities (Form 4) is undertaken. The results serve as the basis for the district's MTEF budget proposal to the central government, covering the four items listed above. Typically, the proposal is revised (downward) by the DADU to conform to the counterproposals from MoFEP that set spending ceilings for MDAs. The revised figures, which form the district's budget for a given fiscal year, are then forwarded to headquarters for revision and reformulation.

It is apparent, both at the central and local government levels, that the initial budget figures are revised without adjustments to the initial objectives and outputs. This raises concerns about achieving the goals of the MTEF, particularly the first and fourth expected outcomes listed above linking expenditures with national priorities and developing an activity or performance-based system. It reflects the lack of capacity for planning and budgeting and the rigidity of the organizational structure for effectively allocating limited resources, leading to the low capital-recurrent expenditure ratio in the sector. This in turn points to the notion that simply paying staff salaries, administrative costs, and other overheads is unlikely to yield any substantive growth and development outcomes.

Interviews with MoFA staff reveal a wide range of challenges in both budget preparation and execution, despite the use of MTEF. They describe the collation of data and data capture in the budget process as cumbersome, since it involves many cost centers and large volumes of data. The recommendations of the previous Public Expenditure and Institutional Review to fund the MoFA budget appear to have gone largely unheeded.

The financial ceilings set by MoFEP to guide the Ministry in its budget preparation were said to arrive late most times, forcing staff to rush through document preparation. This creates problems because the numerous cost centers are spread around the country, and communication between them and headquarters is limited and difficult. Mobile phones and radio are the principal means of communication between headquarters and these far-flung cost centers. Only headquarters have email facilities, which are not always reliable.

Although projects and programs can in principle be carried over to subsequent years under MTEF, this is seldom done. Instead, cost centers prefer to start afresh at the beginning of every budget cycle, which has the tendency to slow the process and eventually weaken the quality of the budget.

While the previous system used “capital” and “recurrent” expenditure categories, MTEF requires all MDAs to prepare their budgets according to the four categories mentioned in Table 12, which were said to better reflect the implications of development activities for public expenditures and thus facilitate more predictable budgets. However, as shown below, the putative benefits of MTEF for sector budgets have yet to be realized; serious weaknesses remain even 10 years after the introduction of MTEF.

Budgeted versus Actual Inflows

Even after scaling down the requirements through the budget process, as described above, there has been a consistent disparity between budgeted and actual inflows across all MDAs. This problem has been especially severe from 2003 onward, which is when the special allocation of HIPC and poverty funds commenced. In general, the 2000–02 period was marked by budget underperformance (that is, actual expenditure was less than the amount budgeted), while the 2003–06 period was marked by overruns, usually of more than 300 percent. In general, recurrent expenditure (especially personal emoluments and administration) performed better than investments.

As shown in Table 12, the disbursement rates vary across spending categories, with budget allocations for personal emoluments (Item 1) more likely to be fulfilled— often exceeded— than the two complementary expenditure categories: services and investments (Items 3 and 4). This is the case at both the national and local levels. In some instances, no allocations are made at all for either services or investments, but especially the latter. It is important to note that in almost all situations, the budget figures are substantially lower than what were originally requested by the Ministry on the basis of the government’s stated policy objectives and goals. In 2008, for example, MoFA requested GH¢319.71 million for services and investments. Based on MoFEP’s indicative ceiling, however, this figure was reduced to GH¢11.97 million.

Table 12. Budgeted and actual inflows to MoFA in 2004 and 2005 (GH¢)

Item	2004			2005		
	Budgeted (GH¢)	Actual (GH¢)	Share of actual in budget (%)	Budgeted (GH¢)	Actual (GH¢)	Share of actual in budget (%)
1	8,797,900.0	11,103,800.0	126.2	9,856,800.0	11,185,300.0	113.5
2	1,653,500.0	2,578,200.0	155.9	1,439,600.0	1,319,700.0	91.7
3	16,665,700.0	11,944,200.0	71.7	22,588,000.0	19,845,000.0	87.9
4	12,320,500.0	7,023,400.0	57.0	29,323,600.0	10,084,100.0	34.4
Total	39,437,600.0	32,649,600.0	82.8	63,208,000.0	42,434,100.0	67.1

Source: MoFA.

Notes: Item 1 is personal emoluments, Item 2 is administration, Item 3 is services, and Item 4 is investments.

It must be stated, however, that persistent divergences between budget allocations and disbursements is a governmentwide problem that appears to have defied successive reforms, including the Public Financial Relief Management Reform Programme, over the years. The underperformance of investments, however, seems to reflect inadequate capacity in procurement, especially at lower levels of government. In attempting to understand the causes of the divergences between budget allocations and disbursements and to prescribe remedial measures, a team of government consultants recently noted in their report that “insufficient budgeting for the wage bill [Item 1] can...lead to cutbacks in nonwage spending after the fiscal year has started”(World Bank 2006).¹⁰ Similarly, this review found that the overrun in personal emoluments (Item 1) seems mainly to be due to the fact that the planning guidelines require planners to use current staff numbers and positions as the planning basis. Inevitably, however, some staff will get promoted, so the costs for this item end up being higher than planned for.

MoFA tries to cope with these budgetary challenges through financial control, such as periodic internal audits to ensure that funds are used for the purposes for which they are allocated— if they are allocated. However, due to inadequate staff, the coverage of such internal auditing is limited. Auditing is typically done twice a year, instead of quarterly, as recommended. A monitoring team is supposed to

¹⁰ This report added that erratic and uneven disbursement of funds “raises questions about the transparency of budgets, the planning and control of establishments, and whether the budget has enough credibility for departments to plan and execute their work programs efficiently. It then recommends a “more rigorous budgeting system,” where “manpower requirements for the following year would be fully taken into account during the budget preparation process...”.

ensure proper implementation of projects and programs as well as cost effectiveness, but this, too, is limited by lack of adequate staff and logistics.

Efficiency and Effectiveness of Agricultural Spending

To estimate the efficiency and effectiveness of total government agricultural spending or MoFA spending on the sector, information on the outputs and outcomes associated with the different types of expenditures reviewed earlier (spending by region or function, for example) are needed. With such information, it would be feasible to estimate the unit cost of providing different services, which can be compared across different service providers (such as DADUs) or over time or both. Based on the limited output and outcome data that we were able to compile from secondary sources and the case study districts, we now look at some indicators of the efficiency and effectiveness of government spending on the sector.¹¹

Efficiency of Government Agriculture Spending

The unit cost of providing public goods and services is an important indicator that can be used for benchmarking the efficiency of service provision. In the agricultural sector, such indicators include, for example, the cost of one farmer visitation, or of developing an improved seed variety with specific yield and disease-resistant characteristics, or of improving market access of one household, or of developing one hectare of irrigation area. It is also important to identify which regional or district directorates provide goods and services at cheaper costs. To calculate those measures, one needs the outlay of expenditures associated with providing a particular output (or public service). An attempt to match outputs with expenditures to identify some unit costs in the case study districts was not successful. The “achievements” in quarterly reports were not consistent with those in the annual report, which is the aggregate level at which the expenditure data were available. The units reported in the financial report also differed significantly from both.

Using the case studies as representative of their respective regions, we estimate the unit cost of providing agricultural extension services, including farm and home visits, demonstrations, and farmer training. Unlike the unit values that are presented in a later section, the cost associated with these services include the direct operational costs (fuel, materials, and so forth), cost of the time spent by the AEAs (which can be prorated based on their annual salaries and benefits), and indirect or overhead costs associated with supervision and management of the AEAs (accounting for time and related operational costs and investments at the regional, extension directorate, and headquarter levels). Table 13 gives details of the outputs, total costs, and unit costs in 2006, as well as the assumptions used in estimating the costs. As Table 13 shows, the total costs were not significantly different across the three regions considered here. The Northern Region had the highest total cost, which was greater by about 23 percent than the costs in the Brong-Ahafo Region and 10 percent greater than those in the Western Region. Compared with the outputs, however, the achievements differed significantly among the three regions. In terms of home and farm visits for example, the Northern Region achieved almost 72,000 visits—nearly 1.5 and 2.5 times the numbers achieved in the Western and Brong-Ahafo regions, respectively. In number of farmers trained, the Brong-Ahafo Region achieved the most, followed by the Northern and the Western regions. In number of demonstrations, the Brong-Ahafo Region achieved by far the most, followed by the Western and the Northern regions. Based on these achievements and estimated costs and assuming that AEAs spend equal time in the different activities (farm and home visits, demonstrations, and farmer training),¹² then the Brong-Ahafo Region provided services at the lowest cost (about GH¢52 per farmer reached), followed by the Northern Region (GH¢64 per farmer), and then the Western Region (GH¢93 per farmer). If we now assume that AEAs spend more time in making home and farm visits than the other two activities, or that a farmer reached through a personal visit is worth more than a farmer reached

¹¹ The previous agricultural sector expenditure review ignored these cost analyses.

¹² The implication is similar to saying that reaching farmers through personal visits is the same as reaching them through demonstrations or training sessions.

through a demonstration or a training session, then the Northern Region was the provider with the least cost per farmer (about GH¢51 per farmer reached), followed by the Brong-Ahafo Region (GH¢66 per farmer), and then the Western Region (GH¢85 per farmer). Providing extension services was relatively more expensive in the Western Region. Across the board, however, the amount spent on operations constituted only about 8.5 percent of the total costs. This is quite low and raises concerns about the quality of the services delivered. It also suggests that there is lots of room for improving the number of farmers reached by raising the amount and share of resources spent on operations, especially services. Basically, AEAs are spending too much time trying to reach farmers. As we will see later, AEAs in the F1 DADU (representing the Western Region) cover a relatively smaller area and so travel relatively shorter distances; therefore, they also have fewer motorbikes and reach fewer farmers than the other two DADUs considered here.

Table 13. Cost of providing extension services by MoFA in selected regions, 2006

	Brong-Ahafo Region	Northern Region	Western Region
Costs (GH¢)			
Salaries and benefits	2,061,752	2,264,505	1,841,860
Operations	203,744	223,780	182,014
Overhead ^a	124,959	137,247	111,631
Total	2,390,455	2,625,532	2,135,506
Achievements			
Number of home and farm visits	20,871	71,934	29,076
Number of demonstrations	6,012	628	1,600
Number of farmers trained	58,175	45,526	23,750
Unit cost (GH¢ per farmer reached)^b			
Equally weighted ^c	52	64	93
Unequally weighted ^d	66	51	85

Sources: Authors' calculations based on Government Financial Statistics (Office of the Accountant General), 2006; MoFA releases to cost centers; and 2006 annual reports of MoFA cost centers.

a Based on expenditure allocations of 11 percent by total headquarters (including directorates) to the Extension Services Directorate, and 9.5, 10.5, and 8.5 percent of total RADU and DADU expenditure allocations to the Brong-Ahafo, Northern, and Western RADUs and DADUs, respectively.

b Assumes 10 farmers are reached in each demonstration.

c Assumes equal weights to home visits, demonstrations, and training in terms of time spent by AEAs in those activities.

d Assumes weights to home visits of 60 percent; demonstrations, 25 percent; and training, 15 percent.

These estimated unit costs may have some implications for improving the efficiency of service delivery vis-à-vis the recently introduced practice of releasing funds for service activities with clear proposed allocations to various staff members and activities, which reflects the Ministry's estimation of incremental costs of providing various services or their priorities in allocating limited funds to performance of various functions. For the second quarter of 2008, for example, each AEA was allocated GH¢ 200 for home/farm visits at the rate of GH¢50 per month and GH¢ 50 for organizing extension field days. They were also allocated GH¢500 annually to conduct demonstrations on five acres. Their supervisors, the DDOs, were allocated GH¢300 for monitoring demonstrations at the rate of GH¢100 per month. The district veterinary officers, on the other hand, were allocated GH¢1,350 for disease surveillance, clinical cause, and supervision. The DDA is obligated to make funds available to their staff according to these guidelines and to retain GH¢1,000 for vehicle maintenance, GH¢ 300 for promotion of local foods, GH¢ 1,200 for coordination, GH¢ 300 for field work supervision, and GH¢ 30 per AEA per quarter for training. The regional officers and directors were allocated GH¢ 900, GH¢ 1,890, and GH¢ 8,770, respectively. These can be combined with annual performance appraisals to establish an incentive system that rewards units or individuals that achieve greater efficiency in terms of the number of farmers reached per unit of allocation or the actual amount spent to reach a farmer.

Effectiveness of Government Agriculture Spending

In contrast to conducting unit cost analysis, assessing the effectiveness of government expenditure on sector outcomes requires sophisticated quantitative methods, because there are several channels through which different types of agriculture expenditure can have impacts, the effect of investments often occur with a lag, and the effects of several factors outside the control of those in charge of implementing programs need to be accounted for. The impacts can be direct or indirect and can be assessed at several levels, beginning with the farm household through the district and region to the national level. National budgets also tend to ignore the outcomes and impacts of their public spending, as well as the types of linkage and related information that are needed for undertaking such an analysis. The MTEF document, for example, only specifies the objective, the output to be produced, and the inputs or resources required.

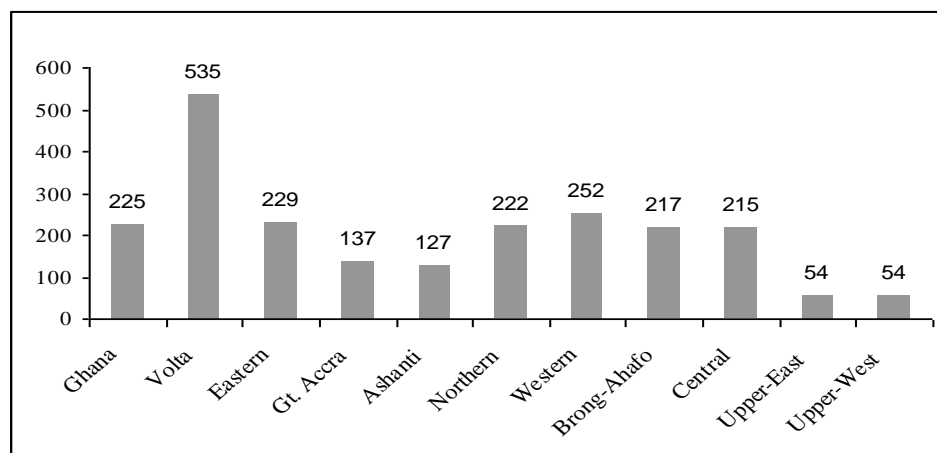
In terms of outcome indicators that need to be monitored for MoFA to effectively track progress in delivering on its mandate as stated in FASDEP II and to monitor and evaluate the sector's contribution toward achievement of the overall growth and development objectives of the country as stated in GPRS II, the information presented in MoFA's annual reports suggests that MoFA is already doing a good job in tracking most of the main indicators. In the 2006 annual report, for example, indicators reported on include agricultural production, trade (export), employment, prices, and income. Many of these are reported by subsector, although the emphasis is more on the crop subsector due to acknowledged data problems. The report also tries to show the sector's contribution to overall GDP, growth, poverty reduction, and food security. What is lacking is the story of the contribution of the government's agricultural investments and programs in general, or of MoFA's investments and programs in particular. The same 2006 annual report states that "agro-climatic conditions were favorable for crop and livestock production" and "there was limited occurrence of pests, diseases, and epidemics", which suggests that the achievements in the agricultural sector cannot be solely attributed to the government's agricultural investments and programs. To tell the MoFA story, quantitative methods (for example, correlation, regression) are necessary, and the analysis should be founded on a sound theoretical framework of causality (that is, inputs→outputs→outcomes) (see, for example, Benin et al. 2008a) that shows how the outputs of the investments and programs are interacting with farmers' (and other target populations') assets and activities to arrive at the outcomes of interest. Resources should be directed at improving such quantitative and analytical skills of the policy analysis unit.

For this review, it is necessary to look at the effect of expenditures on the attainment (or nonattainment) of stated goals and objectives, including increasing agricultural productivity, increasing household agricultural incomes, and reducing poverty among agricultural households. These are directly related to the performance of the agriculture sector. Due to data constraints, however, we have to look at higher level or more inclusive outcomes without loss of causality. This is because agricultural development has a widely known role of raising overall household incomes and reducing overall poverty, since the majority of the population lives in rural areas (about 55 percent) and depends on agriculture for their livelihoods. It is also in the agriculture sector that the poor are concentrated. Moreover, agricultural growth generates resources and labor for the nonagricultural sector and provides markets for industrial outputs. By reducing food prices too, agricultural growth raises real incomes of both rural and urban residents, which leads to overall poverty reduction. Thus, assessing the impact of government agriculture expenditure on income and poverty is the ultimate performance assessment or a measure of the effectiveness of government expenditure on outcomes.

Continuing with the spatial perspective, GLSS 5 data show that most of the increase in household incomes and reduction in poverty was concentrated in the south. Between 1991/92 and 2005/06, real household income per capita increased only modestly in the Northern Region but declined in the two Upper regions. Poverty, which has declined only marginally in these three regions, still remains very high, deepening the inequality between the north and south. With the bulk of the population living in rural areas and depending on agriculture for their livelihoods, Figure 14 shows how the low income and high poverty rate in northern Ghana is reflected in the low agricultural productivity there, especially in the

Upper East and Upper West regions. This suggests that raising agricultural productivity everywhere will not only be beneficial to the economy but ensure that a large number of people are lifted out of poverty.

Figure 14. Value of household agricultural production per capita (GH¢), by region, 1991/92–2005/06

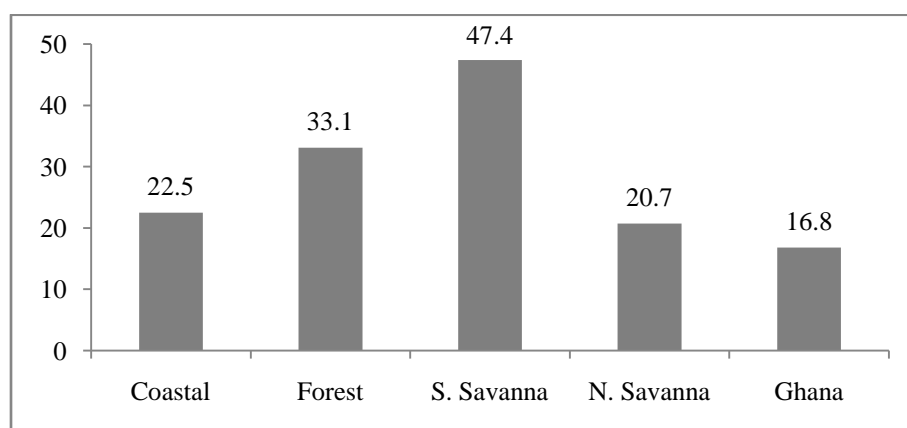


Source: Ghana Statistical Service (GLSS 5).[2005].

In comparing factors that contribute to low productivity and income and high poverty rates, Northern Ghana is characterized by, for example, larger households, lower education attainment levels, and few nonagricultural occupation activities, which translates into lower livelihood options. Benin et al. (2008b) conducted econometric analysis to determine how to target agricultural and rural development interventions. Their research shows that the returns to public investments in agriculture (including total government and AgSSIP expenditures at the regional and district levels), as well as investments in many other public goods and services, are highest in the Southern Savannah Zone, followed by the Forest and Coastal zones, and then the Northern Savannah Zone (Figure 15).¹³ The results also show that the effect associated with the development spending component is much larger than that associated with the recurrent spending component. Together, these suggest that new investments in agricultural capital in the Southern Savannah and Forest zones will yield the highest benefits in terms of raising agricultural productivity, which in turn contributes to increasing household incomes and reducing poverty.

¹³ This is consistent with other findings in Sub-Saharan Africa regarding the large returns to investments in relatively less-developed regions (see, for example, Fan, Zhang, and Rao 2004).

Figure 15. Benefit-cost ratios of public agriculture expenditures in Ghana



Source: Benin et al. 2008b.

Notes: Benefits are measured as total value of household agricultural production and income (from crops, livestock, forestry, fishing, hunting, and so forth) per capita in 2005–06. Costs are Ghana and AgSSIP expenditures at the regional and district levels between 2000 and 2006.

These results not only imply that expenditures should be directed toward regions with higher returns, the figures also indicate that the different agroecological zones have different comparative advantages in production. These influence the costs and risks of producing different commodities, the costs and constraints to marketing, local commodity and factor prices, and the opportunities and returns to alternative income-generating activities, both on and off the farm. As such they indicate that there are trade-offs between allocating resources to areas where the growth effects are strongest (the Southern Savannah) and to areas where the prevalence of poverty is highest (the Northern Savannah). To reduce this trade-off, MoFA, as well as other agencies engaged in the sector, will need to consider different strategies for the different regions (or agroecological zones), which will involve information on returns associated with different types of expenditures (such as extension, research, input support, or irrigation) in different regions. This will help in understanding the reasons for differences in returns and identifying complementarities in expenditures and avenues for intervention. For example, given the high prevalence of poverty in the northern savannah, the overall returns to investment in the northern region can be increased considerably if MoFA is able to make investments in irrigation more successful there. Irrigation would reduce other constraints to improved productivity, especially by reducing production risks caused by climatic conditions and enhancing the utility of chemical fertilizers. Again, given the high prevalence of poverty there, access to credit or cash to finance any productivity-enhancing technologies is likely to be a major constraint. Thus, programs (such as farm support) that assist farmers to acquire such technologies will be critical.

At present, data are not available for full analyses of the returns to different types of expenditures and investments in different regions. Especially important are spatial (region and district) disaggregated government and other public expenditure time series data on the various agricultural subsectors (for example, crops, livestock, fishery, forestry, and natural resource management) and functions or activities (research, extension and training, marketing, inputs such as seeds, fertilizers, and chemicals), infrastructure (irrigation, feeder roads, marketing information systems, postharvest handling, and so forth). Investment in organized, coordinated, and systematic collection of these data for the long run should be considered an important strategy to help MoFA make future investments more effective. Telling a compelling story about the progress and performance made in implementing agricultural policies, strategies, and programs would help attract necessary resources for the sector in general and for MoFA in particular.

Effect of Expenditures on the Other Sectors

The study by Benin et al. (2008b) also shows that provision of other public goods and services, for example in the rural roads and health sectors, also had a substantial effect on raising agricultural productivity. Formal education, on the other hand, was found to be negatively associated with agricultural productivity, because skilled labor was drawn away from the farm. These results highlight the importance of complementary investments. Therefore, MoFA should increase resources and actively engage in the strategic planning of other sectors to leverage or advocate for more resources in those sectors to be allocated toward activities that contribute to raising agricultural productivity.

Effect of Decentralization of Government Agriculture Spending

It well known that decentralization is expected to lead to greater allocative efficiency of public resources, as decentralized governments or units have better information about the need for and requirements of public services in their jurisdictions. However, what we observe in the sector currently is deconcentration of agricultural expenditures—that is, greater resources are being spent at the lower levels of government (regions and districts), rather than decentralization of agricultural expenditures, which should come with some autonomy in raising and spending resources, as in the case of the District Assemblies. Also, the District Assemblies currently do not exercise any discretion over agricultural expenditures in their jurisdictions. Therefore, it is premature to analyze ex post the effect of decentralization of government agricultural expenditures. Should decentralization be accompanied by an incentive structure that promotes greater accountability for budget decisions, including budget execution and monitoring and evaluation, the difficulty of obtaining time-series, spatially disaggregated public expenditure data on the entire sector is likely to ease, as has been the case with District Assemblies for the past 10 years (see Mogues, Benin, and Cudjoe 2007).

4. RECOMMENDATIONS

This review has examined MoFA's functioning using a conceptual framework that examines how various aspects of organizational structure, processes, resources, and accountability interact with each other to result in overall performance. The analysis based on this framework leads to two interlinked conclusions: that capacity and incentives must both be improved.

Strengthening Capacity and Incentives

- Organizational capacity cannot be translated into performance without suitable incentives. Strengthening capacity at the individual or organizational levels without suitable incentives or sanctions for good or poor performance will not be effective. A necessary condition therefore is to make MoFA accountable for results. This is particularly necessary because there doesn't appear to be a discernable work culture that is strong enough to focus attention on outcomes in the absence of pressures on the organization.
- Prioritizing and sequencing reforms is also crucial. Organizational capacity development requires coordinated reforms of processes, structures, relationships, and resources available to the organization. In particular, the need to combine capacity development with incentives has implications for prioritizing reforms. Merely increasing the resources available to the Ministry may not improve performance in terms of engendering productivity changes in the sector, for example, because of the limitations identified by the review. Resources to do more of the same will thus not lead to improved outcomes. Moreover, it would be difficult to raise additional resources without the Ministry being perceived to be effective in fostering technical change in the sector. Similarly, investing in capacity building that focuses on individual capacities would not lead to desired outcomes if individual capacities are not harnessed with an outcome orientation. Therefore, reforms need to be sequenced so as to establish incentives before easing the most binding constraints to improving organizational capacity.

Creating Ownership for the Reform Process

What would be the most effective way to identify, prioritize, and introduce reforms? External agents can be very effective in identifying the limitations to improving performance of an organization. However, for the following two reasons, they are not usually effective in identifying the reforms needed to overcome the limitations and designing their implementation. First, those in the organization itself are usually in a better position to identify the most effective reforms. (To some extent this problem can be overcome through consultations, and we had extensive consultations with current and retired staff.) Second and more important, reforms identified by the organization will have greater ownership and a better chance of being implemented.

An appropriate process therefore needs to begin with an internal review of the findings of the study. We identify four key outcomes that the organization should seek to achieve in order to improve its performance—the absence of these is a limitation to improving performance. We also offer a wide range of specific reforms that are needed to achieve the key outcomes. Prioritizing them is best done internally.

The four key outcomes that the organization should seek to achieve to improve its performance presented here are not in any order of priority because the achievement of any of them will require the achievement of others as well, but it would be useful to begin with efforts to reorient the organization toward results. The reforms to improve MoFA's performance need to achieve the following four outcomes:

1. Strategic direction and *results orientation* that focus on closing productivity gaps for key crops in the sector to strengthen competitiveness and improve natural resource management;
2. Improved intra- and interorganizational linkages and processes to *strengthen development, assessment, and dissemination of technologies* to more effectively bring science and technology to bear on the problems and opportunities in the sector;
3. Improved human resource *management practices that effectively use existing capabilities*, enhance organizational learning, and offer opportunities for professional growth; and
4. Increased thrust on improving expenditure management, *demonstrating returns to investments*, articulating needs, attracting investments, and leveraging resources in the sector.

Next we present detailed recommendations to achieve these outcomes. These recommendations cut across a number of issues that were identified in the original terms of reference such as accountability, management processes, and human resources management.

Strategic Direction with Results Orientation

Clarity of purpose and a focus on outcomes are essential for the Ministry to become effective. A number of conditions need to be in place to achieve results orientation: (1) clearly articulated and owned strategies, with measurable outcomes identified; (2) effective internal communication to develop a shared vision and awareness of the progress being implemented; (3) collection and analysis of information on the outcomes; and finally (4) accountability for outcomes.

MoFA can rely on an up-to-date policy and implementation framework, which has been developed with broad stakeholder consultations. However, strategic direction is particularly difficult to obtain and maintain in an organization in which its decentralized units are expected to be responsive to local needs. As extension becomes more demand-driven and adaptable, field staff and their supervisors may be under pressure to adopt piecemeal approaches to meeting farmer needs. Complex processes will be required to ensure that local plans are consistent with national priorities and that national priorities reflect local needs. Improved communication between various levels are key to achieving this, but the culture of documenting and sharing information is not predominant within MoFA; the management culture places more emphasis on personal relations and interactions than on institutional procedures, with meetings and travel taking an inordinate share of the time of senior managers. Since disseminating knowledge and practices is an essential task of MoFA, improving information culture and technologies should receive high priority in the Ministry. The monitoring and evaluation system that is already in place provides the basis for building outcome orientation by linking activities to outcomes and using the system for effective management and control.

The recommendations to enhance outcome orientation are as follows:

1. Develop clear vision at all levels in the organization:
 - Communicate widely key aspects of the approved policy and the sector plan that is being developed throughout the organization and the sector. In particular, emphasize the outcomes that need to be achieved, such as closing the productivity gaps, to develop a mission and outcome orientation in the organization and an appreciation for the mission of the Ministry in the sector.
 - As was done in the last policy revision, involve senior-level staff, the regional directors, technical directorates, and the planning units, in developing new programs and interventions so that they own them. Apart from building ownership, involving staff in decisionmaking processes is essential for building capabilities and grooming leaders.
 - Strengthen processes to ensure that planning in decentralized units is consistent with broader national strategies. The working of the budget committee is particularly

important here. As districts become accountable to local administrations through continued decentralization, strengthen planning capabilities in the regions to maintain strong links between the national office and the districts.

- The existing planning processes do a good job of linking activities to higher objectives; introduce aspects into processes that require identification of appropriate measurable outcomes for the planned activities.
 - One approach that may be considered for bringing about strategic and outcome orientation is to focus extension efforts on a few crops and technologies that can yield substantial productivity gains and continue with extensive coverage of services such as veterinary.
 - Make DADUs accountable for results/outcomes, rather than just outputs. This would also give them incentives to seek out effective technologies and methods.
2. Strengthen alternative modes of communication to develop a shared understanding of the purpose and the progress the organization is making and to reduce dependence on meetings as the primary means of communication.
 - Investments in infrastructure should place emphasis on communication technologies, especially information and communication technology facilities. Particular attention needs to be paid to offering maintenance and virus protection.
 - Improve the internal communication culture through both technical solutions (such as email) and culture change (such as sharing information).
 - Share progress reports from districts, regions, and other units widely so that reports are not treated as privileged information.
 3. Make more effective use of the existing monitoring and evaluation system for management and control.
 - Mainstream monitoring and evaluation into management processes by making the system relevant to day-to-day management; managers at various levels may be asked to identify a small set of output- and outcome-related indicators that are relevant to their monitoring of progress in their activities.
 - Utilize the annual Joint MoFA–Donor Partner review to strengthen orientation to outcomes and to enhance organizational learning. Make use of expertise in the Ministry and the donor community to examine not only the outcomes but how the Ministry can become more effective, thus contributing to organizational learning.
 4. Make various units in the organization and the organization as a whole more accountable for outcomes.
 - Revise the reporting requirements to focus on outcomes, in line with the efforts to mainstream monitoring and evaluation in the organization.
 - Continue the tradition of annual performance reviews in which stakeholders participate; focus on outcomes and alternative approaches to improve effectiveness.
 - The donors may consider including outcome-oriented indicators to assess the performance of budget support to the Ministry, as opposed to the current process-related indicators used to evaluate sector budget support.

Strengthening Technology Development, Assessment, and Dissemination

Coordinating the development, assessment, and transfer of appropriate technologies to farmers to facilitate agricultural transformation is the core function of an agricultural ministry that maintains a large extension staff. MoFA is ineffective at fostering technical changes, and the absence of outcome orientation makes MoFA's ineffectiveness less obvious than it should be. Strengthening technology development and transfer will require: (1) mechanisms to make the national research system more responsive to meeting technological needs of the sector, (2) better utilization of technical capabilities in the Ministry, (3) effective and regular assessment of technologies that are disseminated through the

extension system, and (4) effective technology dissemination processes with particular attention to technical backstopping and methods of dissemination.

The effectiveness of MoFA's links with research organizations remains an area that needs to be better understood. The Ministry's relationship with CSIR in particular is important. Research-Extension Linkage Committees are one of several mechanisms that are in place to help make national research accountable to farmers and other stakeholders. However, available evidence suggests that their performance is rather mixed. More important, the technical capabilities in the organization are underutilized.

1. Strengthen mechanisms to influence the working of research systems to make them more responsive and relevant.
 - Use more effectively the linkages that the Ministry has with the national agricultural research system at various levels. For example, use the Ministry's representation on the boards of CSIR and the Crops Research Institute;
 - Craft arrangements with universities and research organizations that are more effective in generating farmer-relevant technologies as the Ministry continues to be a major source of funds for the research system and the leading implementer of many donor-supported programs;
 - Re-examine the role of Research Extension Farmer Linkage Committees on which a great deal of emphasis is placed in the sector plan.
2. Strengthen the role of technical directorates and make them accountable for results as well.
 - Assign responsibility for outcomes to technical directorates to incentivize them to identify useful technologies, to backstop extension staff, and to train them in effective dissemination methods.
 - Make technical directorates responsible for all technical matters by requiring them to prepare a synthesis report for the chief director.
 - Require technical directorates to conduct an annual review of the effectiveness of technologies and services delivered in the districts, based on reports by decentralized units. Attention should be paid to (1) whether adoption offers farmers high enough incremental returns, (2) whether they are used in the best environment, and (3) whether complementary conditions exist.
 - Assess all the technologies that are currently demonstrated for their effectiveness; strengthen the assessment processes to routinely examine technology packages with changes in market conditions, natural resources, and availability of new knowledge.
3. Strengthen technical backstopping:
 - Reduce communication barriers and increase incentives for DADUs to solicit expertise from technical departments. Use the Ministry websites and electronic newsletters to make information more accessible. Strengthening outcome orientation is a necessary step to incentivize them to technical assistance.
 - Utilize complementary communication methods to convey routine information to farmers so that extension staff can devote more of their efforts to demonstration of more complex technological packages. Instructional pamphlets, radio, and television programs may be considered.

Effective Use of Human Resources

Capacity, in the sense of individual skills, is often seen as a limitation in organizations, but organizational processes that effectively use existing capabilities and build capabilities by offering learning opportunities may be a greater limitation. In the absence of such processes, capacity building through training may not yield the expected benefits. In order to make more effective use of human resources, MoFA will need to (1) improve its record keeping and develop an information system on its resources; (2) clarify the roles,

responsibilities, and career opportunities to be reinforced through performance assessments; (3) use the available capacity development funds more effectively; (4) groom leadership for various directorates through succession planning; (5) further strengthen annual performance assessments with a focus on outcomes; and (6) effectively use available means to reward and punish staff within the limits of civil service rules.

The inability to effectively harness existing capabilities in the Ministry lies at the core of its performance challenges. While the Ministry is in fact endowed with reasonably well-trained and motivated staff, the capacity of the available staff remains underutilized, particularly supervisory staff at both district and regional levels. This does not deny the dearth of certain technical capabilities and inadequacy of staff in certain positions. However, the Ministry does not have a database to quickly assess the availability of skills and capabilities. One consequence of this is the inability to effectively use training or capacity development funds earmarked for the sector. Weak manpower planning, succession planning in particular, has resulted in many divisions in the Ministry being headed by staff in acting positions who are close to retirement. Leadership and a suitable work culture are important to build in an organization in which the flexibility to offer financial rewards is so limited. Additionally, adequate communication and transport infrastructure are particularly relevant in fulfilling the tasks of the Ministry. But the limited vehicles that are available are not used effectively and may be cornered by senior staff.

1. Allay the considerable anxieties that many staff have over questions such as how they will function under fuller decentralization, to whom they will be accountable, whether they will receive adequate resources to do their work, and whether their career opportunities will be more limited.
 - Work with the Ministry of Local Government to better understand how the Ministry's units would be integrated into local governments.
 - Inform the staff about the implications of decentralization for their work and career opportunities. Revive the plans that were initiated several years ago to put together change management groups.
 - Implement assessment and promotion rules consistently, as some practices from the old structure continue.
2. Invest in developing a Human Resources database.
 - Implement processes or introduce reporting requirements that would give the Human Resources unit access to relevant information.
 - Strengthen the coordinating role of Human Resources in evaluation, promotion, and capacity- building decisions.
3. Initiate succession plans to identify and groom individuals to lead various units in the Ministry.
4. Strengthen accountability of individuals by introducing reward and sanction mechanisms to encourage good performance including using training as a reward.
 - Employ the instruments used currently to motivate or influence staff – resource allocation, transfers, and so forth – to demonstrate the seriousness of evaluations.
 - Motivate staff by recognizing good work; consider awards for performance at the annual farmers' day celebrations.
5. Provide the resources required to perform the work; investments in increased mobility should be accompanied by management approaches that ensure efficient use of vehicles.

Improved Expenditure Management

Adequate and appropriate investment in the agriculture sector is central for MoFA to fulfill its mission. Although real expenditures in the sector have been growing, the Ministry's share in sectoral expenditures has declined as the share going to the cocoa subsector has jumped significantly. Raising resources will be an important aspect of improved expenditure management in the Ministry, as the staff needs to have adequate resources in order to carry out its work and be effective. Shortfalls in communication and

transport infrastructure are particularly keenly felt, since they are the most relevant in fulfilling the tasks of the Ministry. Effective use of resources, particularly with outcome orientation, will be critical to raising additional resources. Improving expenditures management will involve (1) attracting additional resources into the sector, (2) improving information systems and building analytical capacity that can inform resource allocations, and (3) improving planning and expenditure practices. Better information is becoming available, but, as the public expenditure review shows, further improvements are necessary to make possible a meaningful assessment of expenditure effectiveness and trade-offs. Partly, these problems are government-wide problems of financial management.

There is a tendency to see a lack of resources as limiting improvements in organizational effectiveness. While MoFA's resources are limited, there is scope to use the available resources more effectively. For example, MoFA has introduced participatory planning and budgeting at the district level, but budget planning is first done without taking any budgetary constraints into account and later ceilings are introduced in a way that is not transparent at the district level, which essentially undermines the value of the budgetary process at this level. Also, the recent tying of funds to various activities (tagging) essentially divvies up resources among the staff without a clear understanding of the activities to which they are directed. This constitutes recentralization and a reversal of efforts to make better use of resources through decentralization. Delays in fund flows also cause serious problems at the district level, making it difficult for staff to allocate resources to activities that they consider important.

The provision of public goods and services in other sectors (such as rural roads, health, and education) substantially affects agricultural productivity, raising or reducing it. This reflects the importance of complementary investments and suggests that strategic planning at MoFA cannot be divorced from that in other sectors, and resource allocation cannot be treated as a zero-sum game across different MDAs.

Recommendations include the following:

1. Work on increasing resources available to the Ministry. An important aspect of these efforts would be to demonstrate that the resources that go into the sector benefit it by contributing to its development.
2. Coordinate the activities of various organizations in the sector to leverage the resources available for strategic interventions. The Ministry will have to clearly articulate what it is doing to influence the working of other sectors to complement its efforts.
 - Build on the CAADP technical working group that has already been set up to strengthen interministerial coordination.
 - Actively engage in the strategic planning of other sectors to leverage or advocate for more resources in those sectors to be allocated toward activities that contribute to raising agricultural productivity.
 - Use the commitment that the country has made to implement the CAADP agenda to highlight the role of agriculture and build a stronger political base in the country.
 - Use improved statistics to highlight the Ministry's achievements. Implement a communication strategy that projects a positive public image, including tools such as newsletters, annual reports, and publicly available documents.
3. Build expenditure information and analytical capabilities.
 - Increase resources for organized, coordinated, and systematic collection on spatial (region and district) disaggregated time-series data on the various agricultural subsectors, functions, and activities.
 - Strengthen agricultural statistics by working with Ghana Statistical Service on implementing the national statistical development strategy.
 - Improve the impact of quantitative and policy analysis on resource allocation decisions. Resource allocation decisions should take into account the comparative

advantages of different locations in terms of the costs and risks of producing different commodities, the costs and constraints to marketing, local commodity and factor prices, and the opportunities and returns to alternative income-generating activities, both on and off the farm, noting that there are trade-offs between allocating resources to areas where the growth effects are highest (Southern Savannah) and areas where the prevalence of poverty is highest (Northern Savannah).

4. Improve effectiveness of expenditures

- Increase the amount and share of resources spent on services and investments in order to reduce the physical cost of reaching farmers and improve the quality of service delivery.
- Improve timeliness of resource disbursements.
- Balance expenditures on administration and services by making more effective use of existing manpower and attracting additional domestic and donor resources.
- Introduce more effective planning with realistic ceilings that are likely to result in greater correspondence between expenditures and priorities.
- Improve procurement capacity to address underutilization of service and investment funds.
- Use accountability for results to obtain rational allocation of resources rather than tagging of funds to various activities.

Concluding Remarks

These recommendations are only indications of strategies that MoFA could use to increase its effectiveness. To be sustainable and effective, reforms have to come from the organization itself. However, improving the effectiveness of an organization, particularly one that is embedded in a broader culture of public service, is not an easy task. The range and nature of actions required indicate the need for a strong commitment of the organizational leadership to change the ways in which the organization is currently managed. In fact, this review strongly suggests that only management changes will foster the organization's ability to develop and harness individual capabilities that are available to it to effectively pursue its objectives. How such a commitment can be built is an open question. One can expect that, rather than pursuing management changes, organizations are tempted to adopt a piecemeal approach to strengthening capacity through training to overcome deficiencies in technical skills.

To some extent, incentives for reform may come from the development community. Even though managers in development organizations face strong incentives to disburse funds, most development organizations are ultimately held accountable by the parliaments and the public of their respective countries to prove their effectiveness. This pressure for accountability eventually translates into donor efforts to measure the results of their investments. The emphasis on monitoring and evaluation is an indication of this trend.

However, as an incentive for organizational change, this line of accountability is far-fetched, and it involves its own trade-offs. In the past, specific organizational reforms have often been prescribed by development partners, implicitly or explicitly, as conditions for funding. The introduction of the unified agricultural extension service, which many extension agents perceive as undermining their professionalism, is an example. Imposing reforms that donors consider appropriate, often in line with some general global trend at a particular point in time, and then holding the Ministry accountable for lack of results may well undermine genuine reform efforts in the Ministry.

Against this background, it appears useful to invest in strengthening the country's own accountability systems. Elected representatives could play a strong role in creating the incentives for the agricultural administration to deliver. At the national level, Parliamentarians could hold the Ministry accountable for its achievements. At the local level, District Assembly members could play a similar role.

To do so, they need access to information about MoFA's performance. In this regard, the press could also play a stronger role in creating incentives for performance, as could farmers' organizations and NGOs. Investing in the capacity of these actors to hold the agricultural administration accountable could play an important complementary role to investing in the administration itself. In a functioning democracy, it is ultimately the people and their representatives, not external agencies, who have to hold their public administration institutions accountable.

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